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DISEASE OF THE HEART IN THE COW AND HORSE.

By THOMAS SHENTON, M.R.C.V.S., Bakewell, Derbyshire.

CASE I, WAS an aged cow of the short-horned breed (belonging to a carrier at Youlgreave, a short distance off) which I was summoned in haste to see on Sunday, March 23d. She had been observed gradually to lose flesh for some time, and had been subject to repeated attacks of diarrhoea, but was not perceived worse than usual until the morning I was called to visit her, when I found her very ill. Her breathing was much laboured, accompanied by a plaintive moan; pulse about 90; coughing occasionally on being moved; could not be induced to take any food, either in the solid or liquid form; fæces scanty and hard, having the appearance of so much tar. From these symptoms, and her previous history, I could not but consider the case hopeless. I however made an attempt to bleed her, but syncope came on ere a pint of blood was abstracted. The orifice was immediately pinned up. When she was somewhat rallied I gave an aperient, combined with a little spt. ether. nit., and applied mustard and ol. tereb. to the sides.

24th.—Much the same in every respect as yesterday. Gave a pint of ol. lini; applied fresh stimulants to the sides; and ordered her to have some thick oatmeal gruel, to be given at intervals during the day.

25th.—This morning she fell down, in which posture I found her. Her pulse was imperceptible at the jaw; in fact, it was quite evident she was fast sinking. I wished to destroy her, that I might make a post-mortem examination, but the owner would not consent; so I told him, I would come again for that purpose. On going again in the evening, I was told she died shortly after I left.

Post-mortem. — The skin having been taken off, I proceeded to remove the abdominal muscles and examine each

organ by itself minutely. I found every viscus in the abdomen quite sound. The intestinal canal throughout contained a quantity of the same tar-like excrement before noticed. The chest was next laid open, when I was surprised to find the lungs in a perfectly normal condition. The heart, viewing it externally, appeared also healthy. On making an incision a little to the right of the septum ventriculorum, however, beginning at the auriculo-ventricular opening and carrying it round, the nature of the case was at once evident. Growing from the septum was a large tumour, the size of a common breakfast cup. Attached also to the tricuspid valves and chordæ tendinæ were numerous other growths of a similar nature, varying in size from a large pin's-head to a horse-bean. They were all distinctly fibrous in their nature, and could be torn into shreds, the same as a piece of macerated tendon. In the centre of the large growth the process of suppuration had commenced. The other cavities of the heart contained no trace of any abnormal products.

CASE II.—On the 26th August my attention was directed to a black filly of the cart kind, two years old, (the property of Mrs. Baker, of Litton) on account of lameness in the off hind leg. She was out at grass, and, with the exception of trifling lameness, appeared all right. There was some little fulness about the anterior part of the hock, which was hotter than natural; so I merely prescribed a little lead lotion, not thinking it requisite to take her up. I heard no more of her until the 16th of September, when I was again requested to see her, as I was told she was still lame, looked thin, and doing badly. I had her brought up, when I found her in a strange emaciated condition. Her pulse was between 60 and 70, and very weak. Visible mucous membranes blanched, and she was sadly lame. The sheath of the flexor tendons was now evidently the site of lameness, they being swollen and tender to the touch. I considered it to be a case of rheumatism, so had her placed in a warm box, and gave a mild purge, and ordered a poultice to the lame leg.

19th.—No alteration. The medicine has acted upon her bowels. She does not eat much; lies a good deal; but is never heard to cough. Left a little fever medicine, and ordered the poultice to be continued.

22d.—She was a good deal better of her lameness, but breathed with difficulty, and ate very little. She was evidently growing weaker. I left some tonic balls to be given night and morning, and ordered her some boiled oats, malt mash, or any thing she would eat.

27th.—Found my patient much the same in every respect.

I was about to leave her, somewhat puzzled as to her case, when, on observing her walk towards the door, I was struck at seeing the blood at each pulsation regurgitate in the jugular veins, as high as their bifurcations. It directly occurred to me that there was some obstruction offered to the free course of the venous blood through the right side of the heart; and the more I thought about this and examined my patient for it, the more firmly I became convinced that such was the case. I then told the man in attendance I could do nothing more that was likely to save her: still, they might keep her on if they chose, and give her any thing she would eat. I left him with the understanding that when she died he would let me know.

On the 12th a messenger came to inform me, that she had that morning been found dead in her box, after being supped and appearing as usual over night.

I went the following day and examined the different viscera contained in the pelvis, abdomen and thorax. With the exception, however, of two or three slightly enlarged mesenteric glands, nothing was found until we came to the *heart*; which presented nearly the same appearance as in the former case, only that the large tumour was attached to the yielding and not to the solid wall of the ventricle.

My friend, Mr. W. Cox, veterinary surgeon, of Ashborne, saw the heart, and he informs me that he has met with cases in cattle of a similar nature.

*** Mr. Cox would materially serve the cause of veterinary science, and oblige us, if he would favour us with some account of cases both rare and curious in the present state of our knowledge.—ED. VET.

IRITIS, OR LYMPH ATTACHED TO THE IRIS, IN A CALF THREE MONTHS AND A HALF OLD.

By W. A. CARTWRIGHT, M.R.C.V.S., Whitchurch, Salop.

ON the 7th June, 1851, I was ordered to send up a powder to the Mount Farm, to blow into a calf's eye, that had got a skin growing over it. I declined doing so, but promised I would see it. I accordingly went, and found my patient was a rearing calf, about three-and-a-half months old, partly fed by hand, and partly out at grass. It was in a loose box, and the eye, at first sight, looked as if the centre of it was half covered

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with some white substance. On closer examination, I found that a large film of lymph, attached to the lower central edge of the iris, was floating loose in the aqueous humour, upwards, towards the inner and upper part of the iris, nearly filling the pupillary opening, which was very much dilated, being, I should think, about three-quarters of an inch in diameter. The eyelids were well dilated, and I could not discover the least inflammation, either externally or internally; and the calf was feeding and looking well. The people looking after it thought the disease could not have existed long.

Treatment.—Took about two quarts of blood from her, and left a weak solution of argent. nit. to drop into the eye occasionally, and ordered her to be kept up for a day or two.

9th.—Opacity nearly gone. In a day or two all was absorbed, and no return has taken place.

INFLUENZA, PLEURO-PNEUMONIA, AND NEURALGIA IN A PONY.

BY THE SAME.

ON 8th May, 1845, I was called in to attend a large bay pony, in excellent condition, belonging to Mr. Wycherley, saddler, Whitchurch, that had a severe attack of influenza, which had now assumed the form of pleuro-pneumonia.

She was bled three times, and the throat and thorax were blistered, &c., and by the 16th inst. she was nearly convalescent; and was that day being taken out for a short walk. Though her fore legs were then perfectly clear of any enlargement or disease, she was not out more than a quarter of an hour—and the groom said she never hurt herself against any thing, nor did she jump about—when on her return the off fore leg was found a good deal swelled, midway between the knee and the fetlock joint, at the back part. It had, at first sight, almost the appearance of a sprain. I was sent for to see it, and found it very sore indeed. It was quite local, and did not extend for above four inches down the leg, and only about the sinews. It was not at all œdematous, nor was there any general swelling of the limb.

On passing my fingers over the part, I could feel the nerve that passes from one side of the limb to the other: it felt considerably larger, was extremely sensitive, and distinct from the enlargement of the leg.

On looking at the other fore leg, I could clearly see the nerve passing around the back part of the leg, and, on handling it, or giving it the least pressure, she would flinch and shew the most

violent sensitiveness, as much as if one was performing neurotomy. In this leg there was not the least swelling. I ordered fomentations and wet bandages to be kept on the legs, and gave some febrifuge medicine.

17th.—The off fore leg is not so much swelled, but they are both still very sensitive.

6 P.M.—Still improving: the nerve is more sensitive on the inside of the leg.

18th.—Better—swelling much less.

19th.—Swelling all gone, and the tendons and ligament quite clear and distinct; but the nerve on each leg is still very sensitive on being touched.

In a few days after the sensitiveness and lameness had subsided.

DEATH OF A MARE AND COW FROM EATING WHEAT.

BY THE SAME.

ON Monday morning, the 24th August, 1846, I was sent for by Mr. Jones, of Ightfield, to see a half-bred mare and a cow that had eaten, it was said, from a measure and a half to two measures of wheat, on the previous Friday night.

It appears that, on the previous Friday, the owner had been at Whitchurch market, and that, on returning at night, the mare was turned into a croft, at the back of the house, with a cow. Adjoining this croft there was a barn belonging to the Rev. John Justice, wherein was contained a large quantity of thrashed old wheat, heaped against the wooden walls, wherein were numerous crevices, through which the wheat had run out; and there is no doubt but that the cow and mare gathered it up from the ground, so that other would follow through the crevices. From the appearance of the heap it was thought that nearly two measures had escaped, and had been eaten: though of this quantity I rather doubt.

8 A.M.—From the time of the mare eating it, up to the present, no violent symptoms had appeared, but she would not eat, nor had any thing come through her. She is now standing still; pulse not to be felt at the jaw, though a weak one is discoverable at the chest. R. alöes in sol. ℥ij, ol. ricini ℥xij, spt. tereb. ℥ij M. clyster.

9 A.M.—Give alöes 3vj, cum pit. jam. 3iv.

12 M.—About the same. Lamé on the off fore leg.

3 P.M.—The same. Give spt. ammon. aromatic. ℥ij.

5 P.M.—Repeat spt. ammon. arom. $\mathfrak{z}\text{j}$. Seems duller: eyelids red; nostrils blackish.

7 P.M.—Getting worse; in pain; looks at her side; lame on the off hind leg; appears stiff; breathes shorter; bowels have been rumbling now and then. Give ammon. carb. $\mathfrak{z}\text{ij}$ in some gruel. Took two quarts of blood, which was black, and could scarcely be extracted. She is uneasy and sighs; ears and legs have been warmer, but they are getting colder. Looks at her sides.

11 P.M.—Much worse. Lay down for a short time; breaks wind a good deal when down; respiration short; pulse indistinct, and scarcely to be counted. In much pain. Blister the abdomen.

11½ P.M.—Down; lies easy; never thrusts her head, when standing up, against the wall or anywhere else, as in stomach staggers.

25th, 1 A.M.—Has been uneasy, getting up and down. Noticed now, for the first time, some slight eructations of air, and twitchings about the esophagus and breast. Nothing yet of solid has been voided. Has never sweated. Lies on the left side, and looks towards chest, with her nose against it. When she gets up, it gives her great pain in her fore leg and off hind horn or leg. The off hind leg is very hot, the other cold.

2½ A.M.—Has been very restless, and falling about. Hair can be pulled out of her mane, tail, and body, in any quantity. One would think, from the rumbling of the bowels, she would purge every minute. Died about 6 o'clock, in dreadful agony.

Examination.—There was but little wheat, or any thing else, in the stomach, and yet it was a good deal inflamed. The large intestines had a good deal of wheat in them, and a great quantity of chaff, sand, and dirt, and they were highly inflamed. I believe that in one part of the small intestines there was strangulation.

CASE OF THE COW.—She is ten years old, and two months off calving. She ate the wheat on the night of the 21st August, was unwell on the morning of the 22d, and gave no milk throughout the day, nor did she eat any thing. Was seen drinking water at the pit.

23d.—This morning she was seen standing under the hedge, and would not eat. She now purged large quantities of swelled wheat and water, and it continued to come from her once or twice in the day. Nothing was done to either her or the mare.

24th August, 8 A.M.—I saw her for the first time. She is easy. Nearly a quarter (not 8 measures) of swelled corn came from her whilst I was looking at her; breathes at times rather short; ears and horns cold; pulse not to be felt at the jaw,

slightly so at the chest. Give purging medicine combined with stimulants.

12 M.—Has lain down at times, and occasionally gets up, and purges slop and wheat, which is offensive.

3 P.M.—Give spt. am. aromat. \mathfrak{z} ij.

5 P.M.—Repeat spt. am. aromat. \mathfrak{z} j.

7 P.M.—About the same; is cold; purges one to two quarts of wheat about every two hours.

8 P.M.—Gave opii \mathfrak{v} ij; she was easier after it.

10 P.M.—Introduced my arm up the rectum, after she had been dunging wheat, and drew out a good deal more. The gut was slimy, and had a velvety feel. Lies down after purging, and then her breathing becomes easier; but when she wants to purge she grows rather uneasy. I think she is warm. Eyes much sunk. Never lifts her legs towards her belly, or rolls. Give spt. am. aromat. \mathfrak{z} j.

11 P.M.—About the same. Voids more wheat. Give opii \mathfrak{v} j, goose oil Oss. Pulse very quick and small. Has never thrust her head towards the wall.

25th, 1 A.M.—Is easier.

2½ A.M.—Moans. Nose dry. Give plenty of gruel. Lies down a good deal.

4 P.M.—About the same. Has not dunged for three hours; has stood up since last date, but is now down; puts her head now and then to her side. Nose dry; ears generally cold. Give gruel and keep her warm.

6.—About the same; has not dunged since. Is sometimes better and worse. Give gruel, and \mathfrak{z} iv spt. ammon. aromat. Nose dry. Moans and eructates after the medicine.

7.—Is much better; every symptom is favorable; is warm; breathing calmer. Abdomen not all distended, and the purging is not so frequent. She likewise looks more lively, and seems decidedly better, so much so that every one now thinks she will get well. A sad mishap, however, has now befallen her; viz. on going to the cow-house to look at her, I saw her coming, walking firmly up the croft from the pit, where she had blown her sides out very freely with water. She had dunged a large quantity of wheat at the pit. All this was occasioned by the shameful neglect of some one having gone to look at her, who had left the door open. From this time she gradually got worse, and sank and died in the course of the night. I did not see her opened, but I was informed that there was some little wheat in her stomach, and a good deal in the intestines.

THE INFLUENZA.

By EDWIN HARRISON, M.R.C.V.S., Lincoln.

IT is general enough to the veterinary medical world, that "Influenza" is more frequent at the latter end of the year (and more fatal too) than at any other period; and that this season it has been prevalent enough in certain districts is proved by the acknowledgement of it by veterinary writers. I have witnessed its ravages upon many horses, but particularly in one stud of about fifty horses, the stud of the Lord Henry Bentinck, &c. &c., the master of the Burton hunt, and will very briefly notice its peculiarities upon different animals. At the same time, a word respecting its being infectious and contagious.

My attention was directed to a bay horse on the 10th of October, the first animal attacked, one of the cub-hunting horses. Let this be especially borne in mind, as the regular hunters were then between thirty and forty miles from the place where the first ill horse was. I shall again have to revert to this when on infection and contagion.

The symptoms in the bay horse were, a quick, weak and irritable pulse, running from seventy to seventy-five in a minute; the conjunctival membranes highly injected, the mucous membranes also, and of a leaden hue; ears and extremities cold, deathly cold; respiration very quick; mouth hot and much parched; breath fœtid; eyes swollen, closed, and weeping, also the head: a thin and yellow discharge from the nostrils, of so acrid a nature that it quickly scalded hair and skin off where it flowed; staring coat; tucked up belly; great constipation; loss of appetite; œdema of the chest, and sometimes the abdomen; painful cough, and a great reluctance to lying down.

Treatment.—℞. alœe solut. ℥ij, ext. bellad. ʒj, ant. pot. tart. ʒij, potassæ nitrat. ʒij, aquæ distillat. ℥vj, administered every ninth hour until the bowels responded, after which the al. solutio was omitted, and fever medicine, consisting of pulv. camph. ant. pot. tart. and potassæ nitras, administered every seven hours; enemata applied; legs well hand-rubbed and bandaged, the rubbing renewed whenever they grew cold, which was frequently the case; the horse warmly clothed, put in a well-aired and roomy box, and the throat stimulated. The little food that was required consisted of carrots, linseed-mash, &c., a pail of linseed gruel being suspended from the rack, of which the animal frequently sipped—I cannot say drank—so small a quantity being taken.

Fearing that my observations might prove tedious, to go through the whole routine of treatment, I merely add, that it was varied to combat the different symptoms presented. This was the first horse attacked, and would have been removed from the stables which the other horses were shortly to occupy, had he been capable; but such was the great and rapid prostration of strength that the animal could not, without fear of falling, turn in his box.

The regular hunting stud arrived at Lincoln on the 27th of October, and three days after their arrival, Whitelock, Ilwell, and Backslider were attacked; after which, day by day, fell victims to it Kossuth, Glaucus, Tickel, Magnet, Thunder, Hopbine, Reindeer, Templar, Squib, Granby, Tom Thumb, Legatee, the Libel, Testator, Fiescha, &c., until, up to the time I write, very few have escaped.

The symptoms already described were the first observed, generally, but after a time different organs of the body were acutely attacked; sometimes the lungs, at others the kidneys; sometimes the pleuræ, at others, and more generally, the liver, and decidedly the most difficult to treat. In these cases I had to resort to mercurial medicine, giving, morning and evening, hydr. chlor. pulv. opii, terebinth, vulg. q. s. ut fiat bolus; quantities, of course, in ratio to the state of the animal; and I must here quote the words of Mr. Percivall, finding them so explicit and applicable:—"Lest it should be said," says that gentleman, and so say I, after the perusal of these cases, "that they were not of a dangerous character, or to have required any thing out of the ordinary way of treatment, I beg to observe, that, at the time I submitted them to the action of mercury, under a continuance of treatment of any ordinary kind, I certainly should have entertained the greatest fears for their safety."

In one instance the horse "Templar" became totally blind: under treatment, however, I am glad to find his sight quite returned. There was a great tendency to super-purgation when the bowels once responded, and therefore more than ordinary care required in the giving of laxative medicine.

The whole of the cases were successfully treated, with the exception of one, and that the first described.

It is remembered one of the *cub-hunters* was the first attacked. Three days after the arrival of the stud, three horses fell sick of the disease, and these three were occupying stables communicative with the ill horse. I ask, is not this conclusive of influenza being infectious? That it is epidemical and endemical I freely admit, also that atmospherical causes are in operation to produce it; but that, when *once* produced, it is highly infectious, I am convinced, and that the cases quoted bear no scruple. It is

said, and very properly, that isolated cases are not examples : here we were not confined, but had them *ad libitum* ; morning by morning, as I approached the stables, I was met by the groom, who exclaimed, " here are two more,"—" three more," as might be the case, have " caught it."

There are those, then, who say it is contagious and not infectious, and *vice versâ* : to give examples for both.—Two fresh horses were purchased from distant counties, and, anxious to keep them from having it, stables at a distance were provided for them, and all communication with the other horses cut off, until one morning, through a misunderstanding of one of the men, of the groom's directions, these two horses joined issue with the others at exercise : the consequence was, as fully anticipated and predicted by me, that the following day they had the influenza.

It is thus seen I subscribe to the doctrine of infection and contagion. I have long entertained this opinion, therefore the cases quoted are not directly instrumental in forming that opinion, but confirmatory of a previously existing one.

I know there are many who entertain a different opinion, for which I am glad ; since where there is controversy the truth is endeavoured to be arrived at.

Dec. 10th, 1851.

EXPANSION OF THE HORSE'S HOOF.

To the Editor of " The Veterinarian."

Sir,—MAY I, through the medium of your journal, ask Mr. Reeve a few questions, with the hope of obtaining some light on this subject? He has written, that his solution will " give a very fair approximate to the actual degree of expansion." If so, as the upper surface of the sole is an ellipsis, with a triangular space in it, what would be the results of similar measurement at different parts of it? Should not the solution of the problem stand thus, 2 ,5— ,4, leaving an excess of ,1 in the breadth of the base at the part he measured?

Yours faithfully,

AMICUS.

P.S.—Mr. R. may know my name, if he wishes it; but this would not alter the facts or solutions of the queries.

THOUGHTS ON BROKEN WIND.

By JOHN W. GLOAG, M.R.C.V.S., 11th Hussars.

To the Editor of "The Veterinarian."

Sir,—It has often occurred to me, that the generally received views on the physiology of the disease, "Broken Wind," are not, *in all cases*, perfectly and satisfactorily established, and that therefore it might be advantageous to collect the opinions of various members of the veterinary profession upon it, with a view to a further consideration of the subject.

The following remarks are in nowise intended as a *Thesis* on this subject: they are merely the substance of a few passing thoughts, submitted more with a view of eliciting information than of imparting any.

I am, Sir,

Your obedient Servant.

Nottingham,
15th Dec., 1851.

AFTER the careful investigation given to this subject by our very talented author, Mr. Percivall, it seems almost supererogatory in me to say any thing upon it; yet, as I do not gather from his remarks that he considers the present theory perfectly established in all cases, and as he admits the great difficulty of coming to a conclusion, and knowing that many different opinions still prevail on the theory of this disease, I hope I shall not be accused of presumption in hazarding a few remarks. My object in this paper is, by shewing the great difficulties which surround the consideration of this question, to induce numbers of veterinarians to give the result of their experience on important points in the physiology and *post mortem* appearance of cases, from which alone valuable deductions can be hereafter drawn. And although these may not lead to a *cure* of the complaint, yet may such considerations prove advantageous, perhaps, in preventing attacks, or mitigating their intensity.

Broken wind, although not a disease of itself, yet is a peculiar characteristic symptom of a complaint well known among horsemen, to which it owes its name.

THE COMMON SYMPTOMS are as follow:—The act of inspiration is performed very readily; but in expiration there is a very peculiar double heave of the flanks, and this is evidently caused by the abdominal muscles being called into play. Now, if we consider that the act of expiration in the naturally healthy

subject is mainly performed through the elasticity of parts (viz. the ribs and diaphragm) in regaining their position, it will be evident that this extraordinary action of the abdominal muscles must result from the usual means being found insufficient to force the air out of the lungs; and my present object is, if possible, to ascertain what cause, or variety of causes, may induce the necessity of this appeal for extra assistance, in the act of expiration, to this set of muscles.

The broken winded horse is usually a voracious feeder, but withal an ill-conditioned, hide-bound looking animal; his coat is generally harsh and staring; he is the victim of indigestion, and his belly is most frequently pendant and tympanitic from flatus. The hay and oats apparently pass through a bad mill, for they are only half digested. A cough is always present, and this is, indeed, the veriest apology for one; it is so weak that if you were not close to the animal you would not hear it; it is short, feeble, and very greatly suppressed; and generally the animal only gives one cough at a time, excepting when spasmodic fits of coughing come on. Once heard, it is so characteristic that no one can ever be deceived in its nature, but may safely say, when they hear such another, "that horse is either broken winded or becoming so." Attendant upon this cough, in bad cases, is the constant expulsion of flatus, and sometimes, under certain states of the bowels, the fæces escape also. This disgusting symptom is produced by the laborious efforts of the abdominal muscles acting on the tympanitic abdomen, and producing a weakened state of the muscles generally, among the rest, of the *sphincter ani*, which, unable to resist the power of the abdominal muscles in very bad cases, the anus advances and recedes with each inspiration and expiration, and remains partially open, shewing the debilitated state of the muscular fibres. The alæ of the nostrils remain fixed. A peculiar wheezing noise is usually heard at each expiration, and by placing the ear to the chest, in any region, it will be plainly detected, and is usually a diagnostic symptom of the complaint. It sounds as if the air was obstructed and was bubbling through mucus; and what favours this idea is, that the animal very frequently coughs up a quantity of white mucus which gives him ease. The chest afterwards looks larger in volume, and the ribs are plainly to be counted. The nature of the double action in breathing hardly requires description. After inspiration, which is perfectly easy, there is a pause, and the abdominal muscles act with a jerk, and slowly expel the air from the lungs, as if they were a pair of bellows, and then the belly suddenly drops, and the sudden inspiration begins anew. These symptoms do not always exist in equal intensity; on

the contrary, they vary most remarkably, from being dependent on a variety of circumstances, some of which are capable of explanation, while others baffle inquiry. Medical treatment, dieting, exercise, and change of temperature and air, produce the most marked effects on it; and sometimes, without any assignable reason, the most surprising changes for the better or worse take place.

We will now compare the state of things in the living animal with what is presented to us after death. Firstly, I will detail the ordinary appearances; secondly, the varieties.

Firstly.—The lungs are generally found to be in an emphysematous state; which, be it the cause or effect of the disease, produces a difficulty (more or less, according to the degree in which they are so affected) in the expulsion of the inspired air. Emphysema is of two kinds,—vesicular, or pulmonary and interlobular. The first of these has been most frequently noticed, and consists either simply in the dilatation of the minute bronchi and air-cells, or in the rupture of the parietes of several contiguous cells, and their consequent dilatation into one. This may occur only partially or through the entire structure of the lung, and is evidenced by the raised tubercular feel on the substance of the lung, and by its semi-transparent colour at these places. The other kind of emphysema, and which has not been so frequently observed, is the interlobular; which consists in the infiltration of air in consequence of the rupture of the membranous partitions between the lobules of the air-cells into the cellular tissue interposed between the lobules, and connecting them together. Another appearance is sometimes found on the lungs of horses which must not be confounded with the two real forms, viz. sub-pleural vesicles, or air confined beneath the pleuræ. This has often been noticed to exist in animals that have died or which have been slaughtered, though apparently quite free from any affection of the lungs. The nature of this emphysematous sac or bladder of air is different from the two true forms first named; and whether it consist simply in the bursting of an air-cell, or whether the air be secreted from the blood, is not very clear. In pulmonary emphysema the contained air, by the pressure of the finger, is with much difficulty made to leave its place; whereas, in the sub-pleural variety, it readily traverses the surface of the lung. In interlobular emphysema the partitions between the lobules are strongly defined and transparent, and the air may be made to traverse through the cellular membrane between the lobules. The pulmonary variety, on account of the thinness of substance along the edges of the lobes, is usually very plainly seen at those parts. When these vesicles are cut into, their

nature, as above described, becomes evident, namely, the breaking down and agglomeration of air-cells. Sometimes the lungs are in a *state of hypertrophy*, are *evidently of larger volume* than naturally healthy lungs; they are also specifically lighter, and if cut into do not collapse as in ordinary cases. This may arise from general dilatation of the air-cells. Their texture seems to be pale and very porous. On handling them, and especially at the extreme edges, they crepitate under the fingers as the air escapes from cell to cell. With respect to the peculiar lightness of the lungs in broken-winded horses, this alone, without a particular increase of volume, must be cautiously regarded as being produced from a state of emphysema; for we must not forget that the lungs of old horses are always specifically lighter than those of younger animals; and to this class broken-winded horses belong.

These are the general *post-mortem* appearances presented. I shall now consider the varieties: But, first,—Is emphysema invariably present? I can decidedly answer in the negative. Delafond, the greatest French advocate for the theory, after an examination of fifty-four cases, concludes that one-fourth of them arose from other causes. In France, England, and Scotland, numbers of professors of the veterinary art and private practitioners have published statements to the contrary. Indeed, this is so well authenticated that I will take it for granted, and will not consume time or space by referring to them. For my own part, although fully agreeing with the abnormal appearances generally presented, yet in two cases of broken wind which were destroyed for the purpose of examination, after the most careful scrutiny I did not detect emphysema.

The diaphragm has been very frequently found pale and attenuated, and often ruptured.

In one instance, the only anormal appearance I could discover was partial *hepatization of the right lung*.

I cannot speak, to my own knowledge, of any diseased condition of the *heart*, though this may arise from my cases for observation having been but few, and from my attention having never been directed to that organ. I very strongly suspect that at our post-mortem examinations we have strangely neglected this all-important muscle. We know that congestion, as happens in man, is often found to be caused by diseases of the valves of the heart on the right side, producing dilatation or hypertrophy of that organ, as also a congested state of lungs, from the blood being retarded in its passage through them, thus giving origin to those distressing symptoms known as asthma. Now, it appears to me that something of a like nature may exist in the horse, and give rise to the symptoms known as broken

wind : the adominal muscles, under such a condition of things, being called into play to expel the air out of the lungs, which would be gorged with blood, while they were containing the quantity of air necessary for respiration. This, which had for some time been an hypothesis with me, received most confirmatory evidence on consulting the works of that eminent veterinary author, Hurtrel D'Arboval, from whose veterinary dictionary I have extracted the following: viz. the results of some careful post-mortem examinations in ten cases of broken wind, by Professor Godine, junior, at Alfort. This is followed by the autopsy of a broken winded stallion, by the same; and, lastly, the appearance presented on dissection of two broken winded horses, by Hurtrel D'Arboval, with the conclusions he draws.

The whole of the article on broken wind is worthy of the most careful reading: it shews us how very closely our continental neighbours have investigated the subject.

The General History of the Post-mortem Appearances, as detailed by Professor Godine, in ten Cases of Broken Wind.

“The Pericardium is commonly healthy, but only a little larger than usual. It nearly always contains a small quantity of serous fluid, and its surface, especially at the upper part, has sometimes a number of small white spots scattered over it. The volume of the heart is augmented, often to double its size; its tissue is denser than ordinary, of a fibrous consistence, and of a blanched appearance. Opaque spots, of greater or lesser extent, of a fibro-cartilaginous nature, penetrate its substance. The same alterations, likewise, take place on the internal surface of the left ventricle: its capacity is contracted, its orifice diminished in size, its lining membrane thickened, and its external surface is rugged and uneven. Sometimes the right ventricle and the auricle on the same side are found dilated. The tissue of the left auricle is dense, inelastic, thickened, and apparently of a fibrous nature in many points. The auriculo-ventricular valves shew the same organic alterations, and have but little mobility. The communication of the auricle with the ventricle is sometimes partly closed by the alteration of the valves into a cartilaginous substance, which causes an obstruction to the passage of the blood into the arterial ventricle. Both the cavities on the left side are sensibly smaller. The pulmonary veins and the artery have acquired a greater diameter, whilst that of the aorta is diminished. Sometimes the lung contains a quantity of black liquid blood, as is commonly seen when the functions of this organ are deranged by any cause which prevents the natural arterialization of the blood.

“We shall report particularly and separately the following alterations which Godine has noticed in the autopsy of a stallion horse affected with most violent broken wind for many months:—

“The lungs pale, the left lobe shewing many points of induration in its parenchymatous tissue, principally at the place where it touched the pericardium. The diaphragmatic portion of the right lobe crepitating, and dilated by molecules of air accumulated under masses of the pleura. The lymphatic ganglions placed at the bifurcation of the pulmonary lobes, hard at the circumference, but softened in their centre, containing fluid of a russet colour. Pericardium very spacious, but healthy. Heart very large. The capacities of the right and left cavities very different; the exact measure of the auricle and ventricle on the right side being double that of the cavities on the left side; the internal and muscular wall of the right auricle much thinner, hard, very dilated, and covered with large fibro-cartilaginous spots. The same alteration existed in the external and internal wall of the right ventricle: it was equally dilated beyond the ordinary proportion. The left auriculo-ventricular cavities, or arterial, much confined, and their lining membrane thickened; the valves and the fleshy eminences converted into a fibro-cartilaginous substance, much thickened, and very pale.”

Hurtrel D'Arboval followed up these observations by the post-mortem examination of two very bad cases of broken wind, in which, after the most careful search, he found the heart to be very large, and the pulmonary artery very dilated. He was so struck with this pathological appearance, that, in an abridged dictionary of medical science which he brought out, under the head broken wind, he defined it to be the consequence of “an organic lesion of the heart; particularly in a defect in the natural proportions between the right cavities, which receive the venous blood, and the left cavities, which receive the arterial blood coming from the lungs; that the left cavities being diminished in extent, *in consequence* of a diseased state, whereby they could not admit all the blood which had been arterialized in the lungs, these organs became necessarily surcharged with blood, by its being thrown back upon them, creating a distress to the animal, especially in the expiratory movement, of which the double heave (or *soubresant*), which indicates broken wind, is the characteristic sign.”

The remarks of Girard and Rodet follow on the same point, and to the same purpose; and they, in summing up the various causes of broken wind, place diseases of the heart and blood-vessels in the lungs, as one of the principal. The extracts would be too lengthy, and take up too much space, to insert

here : I think I have made a sufficient number of them to instigate us to a most careful search of the condition of the heart and its bloodvessels in horses dying of broken wind.

The only case I can call to mind bearing at all on this, was that of a mare which recently became broken winded under my immediate notice, during the progress of whose disease I found the circulation was always disturbed, which rendered it probable it might have been of this nature.

A chestnut mare, eight years old, had been subject to what may be called *a stable cough* for about six months, and was reported to me to be suddenly seized with violent fits of coughing, threatening suffocation. I visited her, and found her looking uncommonly well, and feeding as usual, and lively in the stable; but on attempting to move her about, she was seized with spasmodic fits of coughing of a most violent description. There was neither discharge from the nose, nor sore throat. The coat was fine, and glossy as silk. The only symptom at all peculiar, beyond the spasmodic and suppressed nature of the cough, was in the pulse, which was full, beating at 42, and intermittent at every fourth stroke. I prognosticated broken wind from the commencement, and treated accordingly, by dieting, alterative and sedative medicine, cool stable, &c. But it is unnecessary further to enter into the treatment. The spasmodic cough continued, and the character of the pulse remained exactly the same for two months, when I thought the symptoms were a little relieved, with the exception of a slight difference in the duration of the expiratory, as compared with the inspiratory movement. Up to that period I had not noticed any peculiar râle in the chest. In another month the mare became perfectly broken winded, and the mucous râle was then very perceptible, while the pulse always maintained its intermittent character. I wish she had died, that I might have examined her; but she lived to be cast and sold. May not this have been a case of hypertrophy of the heart, disease of the semi-lunar valve of the right side? The lungs are usually found pale, with a blanched appearance of the transverse muscle of the trachea, and the lining membrane of the bronchi.

May not *enlarged bronchial tubes* be present, and act as a cause? By the way, could enlarged or dilated bronchi have any thing to do with peculiar hollow-sounding coughs, which we sometimes have in horses (not in broken winded horses but in roarers) bearing an analogy to the nature of pectoriloquy in man?

Might not *aneurism of the aorta* cause broken wind, on the same principle as disease of the valves, viz. by the obstruction of blood in the lungs necessitating the aid of the abdominal

muscles in the act of expiration? May it not be a diseased action, or a loss of nervous power, producing an atrophied condition of the *muscular structure enveloping the bronchi*?

In many cases of broken wind which have been examined after death, and their cases authenticated, *no trace of disease* was apparent; but I would suggest that, when we come to reflect that any anormal change which may affect the *respiration or circulation* may produce the peculiar symptoms known as broken wind, and we look upon emphysema to be a generally found *effect*, and not the original cause of the complaint, we may be better able to reconcile conflicting opinions.

[To be continued.]

PRIZE ESSAY ON THE DESCRIPTIVE ANATOMY OF THE ABDOMINAL VISCERA OF THE HORSE.

By MR. JOHN GAMGEE.

[Read before the Members of the Veterinary Medical Association.]

[Continued from page 683.]

Large Intestine.

The large intestine constitutes the terminating portion of the alimentary canal, being remarkably more developed in solipedes than in any other of our domestic quadrupeds. It occupies the greater part of the abdomen, and most of it is loose, whilst its shape and other peculiarities vary considerably at different points.

It is divided into three parts—cæcum, colon, and rectum—the precise extent of each being defined by special anatomical characters.

The position of the large intestine being constant, it is necessary, for sake of precision, to speak of the whole as to the course it takes in forming the three divisions, extending thus between the small intestine and anus.

The cæcum, or blind pouch, is the first gut, which protrudes in the middle on cutting through the abdominal walls at the linea alba. Its bend or blind extremity is projecting into the left hypochondriac region; its body crosses obliquely the floor of the abdomen, to reach the right iliac region, where it suddenly bends at an acute angle, being rather constricted, and forms the colon. At this part the latter receives the ileum, and extends up the right side of the abdomen to the diaphragm,

where it traverses the direction of the spine, resting on the ensiform cartilage; turning round the left side, it attains the left iliac fossa posteriorly, where it forms a twist like a letter S, from which similitude it has been termed the Sigmoid Flexure of the Colon. The gut, having diminished in size, returns up the same side of the abdomen to the diaphragm, where it again crosses the spine. Being now on the right side, it continues back to a point beyond the anterior mesenteric artery, where it turns upwards and forwards, so as to come in front of the artery in question; then, from right to left, so as to cross the spine for the third time, constituting the transverse colon, which is more capacious than the part preceding it. The two curves which it forms, one on the right and the other on the left, are respectively called the hepatic and gastric flexures of the colon. The gut so proceeds backwards along the left side of the mesentery, being diminished again in size, and constituting the single colon, till we get to the posterior mesenteric artery, where, unaltered in other respects, it takes a straight course through the pelvis, out at the anus, and hence the name of Rectum.

The cæcum, so called from having only one outlet, being closed at its anterior part, or cæcum caput coli, from its being the blind head of the colon, is vulgarly termed the water-bag, owing to the almost invariable fluidity of its contents.

It is situated, as I have before said, obliquely along the floor of the abdomen, extending backwards from left to right.

It is attached to the spine by a meso-cæcum, which is a fold of peritoneum coming off from the spine on to the superior part of the pouch. There is then the fold already alluded to, which stretches from the ileum on to the cæcum, and, through the medium of the mesentery, indirectly connecting the latter with the spine.

The cæcum is cone-shaped, having an apex and a broad base. The former generally protrudes the first when a medium longitudinal incision is made into the abdominal walls, although it is situated above the left portion of the double colon, whilst the liver is directly in contact with the floor of the abdomen. Like the other divisions of the large intestine, the cæcum is sacculated. The bands producing this appearance are three in number at the apex; but between two and three inches from this, one of them bifurcates, so that four bands result, which are continuous on to the colon.

The colon arising from the cæcum receives at first the contents of the ileum, being situated along and occupying the greater part of the floor of the abdomen.

The colon is generally distinguished as double and single. By double, is meant the flexures of the gut from its commence-

ment to its gastric curve ; whilst by the single colon, is understood the continuation of the same intestine to the part where the rectum commences.

The double colon is attached by the peritoneum coming off on to it from the cæcum, in the right iliac fossa, and continues from the outer flexure on to the inner, so as to keep the two in perfect apposition. Thus, if the abdominal parietes are cut through, the whole of the double colon may hang out, with the exception of the transverse portion. The latter is attached to the right kidney, as well as concave surface of the liver; by folds of peritoneum ; to the spine by the transverse meso-colon ; and still more to the left, it is loosely attached by the gastro-colic omentum to the stomach and spleen; besides which it has a peritoneal attachment to the left kidney. Then the single colon commencing, it is loosely affixed to the spine by an extensive peritoneal fold, the meso-colon, similar to the mesentery, but smaller and to its left : this fold is continuous posteriorly with the meso-rectum.

The relations of the transverse colon are important, no less than interesting, inasmuch as it is in close connection with the most important abdominal viscera. On the right, its upper surface is contiguous to the right kidney, as well as to the right and Spigelian lobes of the liver. In the middle, its superior surface is connected principally with the pancreas ; and to the left, but still superiorly, it approaches the left kidney and spleen. Anteriorly, the stomach also touches it, especially during repletion.

The shape of the colon is very variable in different parts of its course. Thus, the first portion of the double colon, from the right iliac fossa till it forms the sigmoid flexure, is capacious and sacculated ; the latter being due to the four bands continuous on to it from the cæcum. At the sigmoid flexure the bands are completely lost, so that the gut is smooth ; but as we extend up towards the diaphragm the anterior band begins, and then the posterior one becomes apparent ; so that the transverse and single portions of the colon are puckered by two longitudinal bands.

The Rectum, so called from its comparative straight course through the pelvic cavity, arises from the single colon, a little anteriorly to the posterior mesenteric artery, and ends at the anus, where its mucous membrane is continuous with the common tegumentary covering. It is attached in its anterior two-thirds by a meso-rectum ; the posterior third is an exception to any other part of the intestinal track, in so far as it is connected to adjacent parts by special fasciæ, and at its termination by certain muscles hereafter to be dwelt upon.

The size of the rectum is much the same as the single colon. It is puckered in its anterior part by two longitudinal bands; and the sacculi, resulting therefrom, determine the shape of the fæcal matters.

The rectum is superiorly related to the spine, whilst inferiorly it comes in contact with the bladder, bulbous portions of the vasa deferentia, vesiculæ seminales, and prostate.

The structure of the large intestine does not vary essentially from that of the small, as it possesses the four coats, i. e. peritoneal, muscular, cellular, and internal mucous.

The peritoneal tunic forms an entire covering to the large intestine, with the exception of the superior surface of the transverse colon—which is in contact with the pancreas—and the terminating portion of the rectum. The bands by which it unites the intestine to other parts have been already described. In addition to the peritoneum forming an entire covering to the gut, at the attached margin of the flexures of the colon it constitutes folds loaded with fat, varying in width in different parts, and clustered so as to have deserved the name of appendices epiploicæ.

The muscular coat of the large intestine is differently developed in various parts. Its fibres are of the plain variety, and arranged in two orders. The outer longitudinal set is scanty in some parts, but in others forms the longitudinal bands above alluded to. These are shorter than the actual length of the gut itself, so as effectually to pucker it. The number of longitudinal bands varies from one to four in the various parts of the gut, and the shape and breadth of the latter is not everywhere the same. The longitudinal fibres are abundant in the rectum, but they only form bands in the anterior two-thirds, as posteriorly to this they uniformly surround the gut. The inner layer of fibres encircles the whole of the gut, being thickest towards the apex of the cæcum, as well as in the single colon and rectum: at the end of the latter the internal sphincter ani is formed by an accumulation of the circular fibres. The circular fibres of the colon are engaged in forming the ileo-colic valve, hereafter to be described.

The cellular coat of the large intestine resembles that of the small, only not so abundant, except at the terminating portion of the rectum, where it is much more developed.

The mucous lining of the large intestine is continuous anteriorly with that of the ileum, posteriorly with the common integument. It is thin, more or less coated with mucus, scantier in glands than the one of the small intestine, but the orifices of the Lieberkuchnian crypts are more apparent, owing to the surface here being destitute of villi. Saccular recesses,

more or less capacious, exist in the membrane lining the large intestine. The difference in degree of vascularity gives rise to difference in the colour of the mucous coat in various portions of the gut: thus, that lining the cæcum is generally more deeply coloured than that of the colon, whilst the rectal mucous membrane is more vascular, and hence redder than the colic or cæcal one.

At the termination of the ileum is the ileo-colic or ileo-cæcal valve, which is constituted of two folds of mucous membrane, almost parallel to each other, and horizontal, leaving between them an elliptical orifice when partially drawn asunder. The folds consist of the circular fibres of the intestine, lined on the inner or ileac side by the villous membrane of the small, whilst on the cæcal and colic side they are covered by the mucous membrane proper to the large intestine. It is worthy of notice, that though muscular fibres partly enter into the construction of the valve, its efficiency is explicable on purely mechanical grounds, as proved by the fact, that it is competent in the dead body.

The anus is the outlet of the intestine, which is perfectly closed, except during the evacuation of feculent matters, and is made perceptible externally by the elevation of the tail, being situated in a space bounded superiorly by the sacrum and coccyx, laterally by the ischial tuberosities, and inferiorly by the urethra in the male and vulva in the female.

It is lined within by the mucous membrane of the rectum, which is loose and of a marked red colour. Its external covering is of common integument, destitute of hairs. Lying between the skin and mucous membrane are two circular muscles, whose office it is to keep the anus closed and prevent constant evacuation of fæces, whilst there are other muscular appendages situated externally to these, destined either to elevate or retract the anus, being evidently antagonistic to the sphincters.

The internal sphincter ani is in contact with the attached surface of the intestinal mucous membrane, and separated from the integument by the external one. It is constituted of the pale circular fibres of the gut, but towards its free edge certain coloured fibres are apparent on it.

The external sphincter is situated outside the internal one, and within the anal integument: it is circular, and composed of red fibres, attached superiorly under the first coccygeal bone, and inferiorly its fibres blend in the male subject in the accelerator urinæ and triangularis penis, and in the female with the constrictor vaginæ.

The levatores ani are two pale muscles, attached on each side

of the first coccygeal bones, and spreading downwards and forwards on to the rectum, form an attachment for the internal sphincter, and blending with the longitudinal fibres, so as to increase the thickness of the muscular coat of the rectum. The action of these muscles must be that of elevating the anus and shortening the rectum from before backwards.

The retractors proper to the anus are one on each side attached to the inner surface of the articular extremity of the ischium. Extending from before backwards, and rather upwards, they blend with the external sphincter. Their action is obviously that of retracting the anal opening.

Vessels, Nerves, and Lymphatics of the Intestine.

The intestinal canal, as a whole, receives arterial blood from the anterior and posterior mesenteric arteries, hepatic branch of the cœliac axis, with branches from the internal pudic. The arteries of the small intestine are derived from the anterior mesenteric, whose divisions, varying from twenty-four to twenty-eight, proceed to the small intestine, with the exception of four, which minister to the nutrition and functions of the large intestine. The branches extending from the main trunk, at acute angles, proceed between the layers of the mesentery, to within one and a half or two inches from the gut, where they anastomose, forming vascular arches, from which the secondary branches arise, and, proceeding on to the intestine, ramify on the several coats, especially the mucous one. The anterior division of the anterior mesenteric artery, proceeding to the duodenum, anastomoses with the duodenal branch of the hepatic artery. The last iliac division inosculates with the cæcal and colic branches of the same trunk.

The cæcum and colon receive arterial blood solely from the branches derived from the anterior mesenteric, with a slight contribution from the posterior mesenteric arteries. The branches of the former originate opposite the flexure made by the cæcum and colon. The cæcal divisions, two in number, proceed downwards and forwards till they reach the gut. The posterior one passes round the posterior part of the border of the cæcum, to get on the under surface of the latter, extending to the apex in somewhat a straight course, and ramifying collaterally; at its termination it forms a vascular network, by anastomosis with the superior cæcal artery. The latter one, reaching the gut, extends directly forwards towards the apex, and comports itself like the former. Thus we see the flexure formed by the cæcum and colon is supplied by collateral branches from the superior and inferior cæcal mesenteric divisions, both these

anastomosing on the corresponding surfaces with the colic arterial trunks.

The two branches going to the colon extend, about parallel to each other, downwards and forwards and to the left, the one gaining the cæcal end of the colon, whilst the other proceeds on to the hepatic flexure. Then these may be traced, the one backwards and the other forwards, relatively to the course of the gut, along its superior border, so as to reach the sigmoid flexure, where they mutually inosculate. From the mesenteric division going to the transverse colon, is a branch proceeding on to the single portion, which anastomoses posteriorly with the posterior mesenteric. This vessel divides first into two branches, i.e. an anterior colic and a posterior rectal one. The anterior colic branch is directed forwards and downwards between the layers of the mesocolon, and divides into four or five branches, which bifurcate and form arches, like the arteries of the small intestine, for the supply of the contiguous gut. The arteries of the rectum are sometimes spoken of as the hæmorrhoidals, and these are distinguished as anterior, middle, and posterior. The anterior hæmorrhoidals are formed by the hindermost branch of the posterior mesenteric artery, which, passing into the folds of the meso-rectum, supplies consecutive branches to the gut, till, posteriorly to the peritoneum where the arteries pierce the muscular coat, and, forming a network of vessels, anastomose with the middle hæmorrhoidals, which are the ramifications of the internal pudic.* These inosculate with the posterior hæmorrhoidals derived from the same source. The anus is, then, supplied with blood from the last named branches, as well as from perineal twigs of the external pudic.

The veins of the intestine accompany the arteries, and are equally distributed. The posterior mesenteric vein is formed by similar divisions to those coming off from the posterior mesenteric artery, and then the main trunk extends forwards and enters the porta, near the termination of the splenic. At this spot the veins from the small intestine, as well as from the cæcum and double flexures of the colon, also contribute to form the large portal trunk.

The nerves of the intestines are derived from the solar plexus, and they are found in association with the arteries. The duodenum also receives branches from the par vagum nerves, and the rectum and anus are supplied also by divisions of the two last sacral pairs.

The lacteal and lymphatic vessels of the intestine are anatomically alike, and even physiologically they admit of

* This artery sometimes, erroneously, goes by the name of its terminating branch—the artery of the bulb.

being comprehended under the same term, "lymphatic," because both absorb the fluid known as lymph. But since the lymphatics of the small intestine additionally contribute to the function of chyloferous absorption, they have been distinguished as lacteals, in conformity with the colour of the fluid which they take up during the digestive process.

The lacteals of the small, and lymphatics of the large intestine, enter a set of lymphatic glands, by no means numerous, and of small size, situated along the attached border of the gut. From these the lacteals ascend to about twenty-five or thirty lymphatic glands of larger size than the others, situated at a short distance from the spine, between the folds of the mesentery, from which the lymph is then conducted into the receptaculum chyli. From the large intestine the lymphatics enter, in addition to the intestinal set of glands, others situated in the lumbar region, partly between the folds of the meso-colon and meso-rectum, from which the lymph is carried into the common reservoir.

The receptaculum chyli receives the fluid from the lymphatic vessels of all the abdominal viscera, as well as from other parts. It is a membranous pouch of various caliber, lying in contact with the right crus of the diaphragm, and right psoas muscle, corresponding in situation to the second and third lumbar vertebræ. It gradually constricts anteriorly, and, crossing the aorta to get on its left side, enters the thorax, and here becomes known as the thoracic duct, which empties itself into the right axillary vein.

Spleen.

The spleen, although, possibly, not bearing any physiological connexion with the digestive process, still, from its anatomical relations, conveniently admits of description here. It is a singularly elastic organ, of a purplish grey colour; smooth on its outer surface, and composed of a spongy texture, enclosed in fibrous tissue. The colour of the spleen is generally darker in herbivora than in carnivorous quadrupeds, as in the latter it is more of a red colour.

It is situated in the left hypochondrium, and partly in the epigastrium, being attached by its outer tunic to the stomach, left kidney, and transverse colon.

It is scythe-shaped, being small and pointed anteriorly, but broad posteriorly. It is smooth, and somewhat convex on its inferior surface, whilst its superior one is divided into two unequal halves, by a fissure termed the hilum. The anterior division is narrow, but the posterior one is broad and triangular in shape.

The margin of the spleen is sharp all round. The size of the organ varies considerably in different subjects, and, according to circumstances, in the same animal.

The spleen is related, by its superior surface, to the left end of the greater curvature of the stomach, and to the diaphragm; at its broad base it is in close relation with the left kidney; its inferior surface is connected with both double and single portions of the colon.

The spleen has two coats, a parenchyma, bloodvessels, nerves, and lymphatics, needing separate description.

The external coat is peritoneum, which forms not only a covering to the organ itself, but bonds of connexion between it and other parts, such as the gastro-splenic omentum, and the attachment to the kidney and transverse colon heretofore described. This coat is smooth externally, rather closely attached to the fibrous coat internally, but of considerable elasticity, so as to allow the spleen sufficient freedom for distention.

The second or fibrous coat, also termed the albugineous or elastic coat, is that closely applied to the parenchyma of the organ. It consists of yellow and white fibres, and in some parts, such as in the trabeculæ, Koelliker has found plain muscular fibres, which he says do not exist in the external portion of the fibrous tunic in the horse. The covering not only envelops the outer surface of the organ, but sends sheaths and processes into its substance. The sheaths are purposed for covering vessels, whilst the processes, termed also trabeculæ, divide the substance of the spleen into areolæ or interspaces, which contain a red matter, easily washed and pressed out, known as the splenic pulp. The trabeculæ also arise as processes from the vascular sheaths, as well as from the external tunic. When the pulp has been thoroughly washed, the outer coat, with the trabeculæ and sheaths, have the appearance of a framework or skeleton.

The splenic pulp has a medullary aspect, being composed of cells and bloodvessels; and if the organ be cut clean in any direction, we see, besides the cut ends of vessels and trabeculæ, certain pearlish looking bodies, named, from their discoverer, Malpighian Corpuscles. If divided, fluid escapes from the cavity which exists in their interior. They are perfectly visible to the naked eye, being about one-thirtieth of an inch in diameter, and with a pocket glass they may be seen attached to the small arterial trunks, if the pulp has been previously carefully washed.

The spleen derives its arterial blood through the splenic artery, which is the main division of the celiac axis. Winding

between the folds of the gastro-splenic omentum, it not only sends numerous branches through the hilum, and on to the surface of the spleen, but also supplies the stomach, largely inosculating with the gastric artery, so that the two might mutually perform each other's office, if the main trunk of either were obstructed.

The splenic vein is similarly distributed to the artery, and it empties its blood into the vena portæ, just anteriorly to the posterior mesenteric vein.

The nerves of the spleen are derived from the solar plexus, and with the splenic artery enter the spleen.

The lymphatics of the spleen are said by Koelliker to be scanty; but Dr. Sharpey tends rather to the belief that they are abundant. They are arranged superficially and deep, both sets anastomosing freely with each other, and, reaching the hilum, they enter various scattered lymphatic glands in the peritoneal folds, and then empty into the receptaculum chyli.

Liver.

The liver is the largest gland in the body, and proportionately largest during certain periods of foetal life. It is of a dark reddish brown colour, and destined for the office of biliary secretion.

It is situated across the long axis of the body, in the right hypochondriac, epigastric, and partly in the left hypochondriac regions.

It is attached to various parts by five ligaments, four of which are peritoneal folds, and one is the remnant cord resulting from the obliteration of the umbilical vein within the abdomen. These attachments will be more fully described with the peritoneal tunic.

The external aspect of the liver is smooth, being convex superiorly and concave inferiorly, broad posteriorly, and sharp anteriorly. It has a granular appearance, and a very superficial inspection clearly shews that it is composed of lobules, about the size of a pin's head.

The hepatic substance is irregularly divided into numerous segments by fissures, which either extend through the gland from side to side, or are mere grooves of more or less depth. The different segments of the gland or lobes are three principal ones—right, middle, and left—to which smaller ones are appended.

The right lobe is the largest of the three, situated in the right hypochondrium, being thickest posteriorly and sharp anteriorly. The supero-posterior part of the right lobe is marked

by a depression, for the adaptation of the anterior part of the right kidney. At the superior part of the right lobe is an excavation for the vena cava, which extends from behind forwards, and marks off the division between the right and middle lobe. The vena cava is here more or less imbedded in the substance of the right lobe, but, generally speaking, it is superficial in the horse, and only an imperfect channel is formed for it.

Projecting from the inferior surface and posterior part of the right lobe, is the lobulus spigelii, which is of considerable size, being broad posteriorly, and attached by its superior and left border, so that it projects anteriorly and narrows; its apex gradually tapers, and has been capriciously designated, by the lovers of a quintuple hepatic arrangement, lobulus caudatus.

The middle lobe of the liver is the smallest of the three; it is crossed on its inferior surface by the transverse fissure or porta of the liver, at which the vessels and ducts enter into and issue from the gland. The middle lobe in the horse is divided at its anterior part into five or six portions, and Mr. Percivall, in his *Anatomy of the Horse*, at page 259, has termed it the lobulus scissatus. It is traversed antero-posteriorly by a channel for the remnant of the umbilical vein, which eventually joins the vena porta.

The left lobe is the thinnest of the three, but occupies an intermediate position in length and breadth. It is very thin at its left margin, and gradually thickens posteriorly. At its posterior and left side is a depression in which the œsophagus rests. Sometimes the left lobe is divided into two at its anterior part; at others it is single.

The superior surface of the liver is convex, and in contact with the pillars and expanded portion of the diaphragm. The right, as well as the Spigelian lobes, are in relation posteriorly with the right kidney and right supra-renal capsule, inferiorly with the head of the pancreas, duodenum, and transverse colon. The middle lobe is related inferiorly to the pancreas, but partially separated from it by the vena portæ. It also suspends the duodenum, and its left edge is loose and in close proximity to the flexures of the colon. The left lobe is related posteriorly to the œsophagus, and inferiorly to the left end of the stomach. The pancreas also stretches across its posterior part, partially separating it from the transverse colon.

The liver receives an incomplete covering of peritoneum. The latter, reflected from the diaphragm on to the concave surface of the middle lobe of the liver, forms a double membranous layer, known, in accordance with its shape, as the falsiform ligament, and holding in its free and concave margin the round

ligament, the representative of a foetal structure, the umbilical vein. Furthermore, the liver is provided with a coronary ligament that surrounds the foramen dextrum of the diaphragm, through which the vena cava passes. The lateral ligaments are distinguished as right and left; they connect each lateral lobe to the diaphragm.

The only connexions of the liver that remain to be mentioned are the stomach, duodenum, transverse colon, and pancreas to its inferior surface, and the right kidney to the posterior part of the right lobe.

Dissecting off the serous tunic, it is found connected with the biliary surface by cellular tissue continuous at the porta with the so-called capsule of Glisson. The latter extends into the liver as a common sheath to bloodvessels, nerves, lymphatics, and biliary ducts.

To proceed with further description of the liver would be useless, unless first examining the bloodvessels and ducts in that part of their course which is external to the organ. The hepatic artery is quite subordinate in size, considering the magnitude of the organ and amount of its secretion. It is a branch of the celiac axis, at first in contact with the pancreas and then between the folds of the gastro-hepatic omentum, and it reaches the porta on the left side of the portal vein. After giving off pancreatic and duodenal branches, it divides into two, a right and a left one. The right, the largest and somewhat the longest, penetrates into the right lobe, giving off collateral branches, first to the middle and then to the right lobe itself. The left is the smallest division, and is distributed to the lobe corresponding to it in position, and also to the middle one.

The liver is exceptional for having, besides an artery, another afferent vessel—a vein, known as the portal vein, formed by the splenic, which also receives the gastric and mesenterics, meeting each other at the same spot near the posterior part of the pancreas. From its origin the portal vein takes an oblique course from left to right through the pancreas, and, being surrounded by nerves, it reaches the porta of the liver, and here divides into three principal branches, one for each lobe.

At the porta we also see the biliary duct coming out, formed by the union of several branches corresponding in number to the ramification of the bloodvessels. This duct passes through the gastro-hepatic omentum, meeting the pancreatic duct at almost a right angle, and with it opening into the duodenum about five or six inches from the pylorus.

Having thus far considered the main vessels, we may examine further the internal structure of the liver. At the porta the branches of the vessels and ducts are associated together

and surrounded by cellular tissue, which sheaths grooves or canals cut in various directions in the substance of the organ. These are the portal canals, and the cellular tissue in question is Glisson's capsule.

The vessels and ducts ramifying on the sheath acquire the name of vaginal branches, and as they are traced between the lobules they are termed interlobular. Here the unassisted eye ceases to take cognizance of their further relation, but with careful dissection and a common pocket lens they may be traced to the lobules, which they enter; and the blood of the hepatic artery and portal vein is emptied into a common set of vessels, the hepatic vein. The relation of these vessels in the lobules may be seen on the surface in a good injected specimen of liver, where the hepatic veins have been injected one colour, and the other vessels differently. By this means the centre of the lobule is coloured with the injection thrown into the hepatic veins, and the circumference with that of the portal vein.

The hepatic veins issuing from the lobules cross the structure of the liver in separate grooves, formed by the coalescence of the hepatic particles, so that their base is in contact with the veins, and hence the name of the latter is that of the sub-lobular hepatic veins. These empty into the posterior cava by several orifices, as well as by two larger ones, guarded by semi-lunar valves, situated just at the foramen dextrum of the diaphragm.

In addition to the bloodvessels and ducts of the liver, it is supplied with nerves from the solar plexus, which ramify with the vessels.

The lymphatics of the liver are abundant, and arranged, like in other organs, as a superficial and deep set, which inosculate freely in the substance of the organ, and, uniting to form several branches, they issue from the porta of the liver, passing through some lymphatic glands situated round the fissure, and from this they advance to the receptaculum chyli.

Pancreas.

The pancreas is a compound vesicular or racemose gland, being much of the same nature as the salivary glands.

The pancreas occupies the interval between the layers of the transverse mesocolon, along the upper surface of the transverse colon.

Its attachments are merely cellular, with the exception of the pancreatic duct, which attaches it pretty closely to the duodenum.

The pancreas is spoken of as having a body, a head, and a tail. The body of the pancreas is that part stretched across the

middle lobe, whilst the head is longitudinally extended, being almost parallel to the vena portæ, and situated below and to the right of that vessel. The head is broad anteriorly and rather narrow posteriorly, and continuous from below upwards, and from right to left, then from behind forwards, to gain attachment to the body, so as to form a ring for the passage of the vena portæ. The part to the left of this vein is termed the tail of the pancreas.

The pancreas is related by its superior surface to the right, left, and Spigelian lobes of the liver, also to the vena cava and aorta, which separate it from the phrenic crura. The posterior part of the head of the pancreas is in relation with the right supra-renal body. The tail of the pancreas is stretched transversely to the branches of the cœliac axis, and attached to the left kidney by loose cellular tissue. The inferior surface is in contact with the tranverse colon.

On examining carefully the structure of the gland, it is found to consist of clusters of cells, from which ducts arise, and these unite to form a main trunk, that is traceable back to the tail of the pancreas, increasing in size till it reaches the anterior extremity of the head, where it pierces the duodenum together with the hepatic duct. Besides these clusters of cells and ducts, the gland contains connecting cellular tissue.

The pancreas is supplied with arterial blood by branches from the three divisions of the cœlic axis, as well as from the anterior mesenteric.

The pancreatic veins empty themselves into the splenic.

The nerves are derived from the solar plexus, and the lymphatics of the pancreas, on issuing from the glandular substance, may be traced to the common reservoir of chyle and lymph.

[To be continued.]

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

TRAITÉ DE L'ORGANIZATION DU PIED DU CHEVAL, COMPRENANT L'ETUDE DE LA STRUCTURE, DES FONCTIONS ET DES MALADIES DE CET ORGANE. Par M. H. BOULEY, Professor de Clinique et de Chirurgie à l'Ecole Nationale Vétérinaire d'Alfort, Secrétaire General de la Société Nationale et Centrale de Médecine Vétérinaire. Avec un Atlas de 34 Planches Lithographiées, dessinées d'après Nature par M. Edm. Pochet. Paris, 1851.

Pas de pied, pas de cheval.—*Lafosse.*

No foot, no horse.—*Jeremiah Bridges.*

TREATISE ON THE ORGANIZATION OF THE FOOT OF THE HORSE, COMPRISING THE STUDY OF THE STRUCTURE, FUNCTIONS AND DISEASES OF THAT ORGAN. By M. BOULEY. With an Atlas of 34 Lithographic Plates. Paris, 1851. Parts I & II. Fcap. 8vo, pp. 320.

[Continued from vol. xxiv, p. 695.]

SECOND DIVISION.—PHYSIOLOGY.

THE study of its anatomy having made us acquainted with the structural peculiarities of the foot, it now becomes our duty to consider the functions of its several component parts, together with their combined action as a whole, in order that thereby we may arrive at as complete and comprehensive a knowledge as possible of the vital operations of so admirable a specimen of organization. To this end, M. Bouley arranges his physiological section under the four following heads:—

1. *Nutrition*—2. *Locomotion*.—3. *Innervation*.—4. *Secretion*.

Selecting the second of these sub-divisions, as treating of the subject in which we have ever felt, and continue to feel, an *especial* interest, we pass over that of “secretion,” and enter at once upon

CHAP. II.—ON LOCOMOTION.

Our own country writers “on the foot” have been too much in the habit of restricting their observations to the foot itself, treating on it as though it were *an insulated organ*; whereas it must be obvious, at least so far as its locomotion is concerned, that it cannot be regarded, with propriety, in any other light than as part and parcel of the locomotive apparatus of the *entire limb* to which it belongs; and so far will there, in this respect, exist differences between the fore and hind foot. M. Bouley has, judiciously, viewed the subject on this comprehensive scale. He commences the present chapter by quoting from Bracy Clark, that in the horse “is accomplished one of the most difficult problems in mechanics, viz., the moving of a large and heavy body with an extraordinary degree of velocity.” Through what combinations of structure so surprising a result is brought about, it will be for us, says M. Bouley, to inquire. The following extracts—of necessity brief, to accommodate them to our pages—will exhibit the scientific manner in which this inquiry has been conducted:—

“The horse, one of the most bulky and ponderous animals of creation, is likewise, at the same time, one endowed with the greatest freedom of action and rapidity of movement, and that possesses the power of instantaneous translation of his bulky body in the highest degree; a felicitous combination of contrary faculties to which the study of the machine furnishes the key.

“The limbs, the essential parts in this function, are made up of columns of support and of organs of impulsion.

“What is remarkable in the disposition of the shafts composing these columns is their, in general, angular disposition in relation to each other. Such arrangement is, doubtless, unfavourable for solidity, seeing that the force and resistance of a column must depend upon the perpendicular superposition of its constituent layers; but, on the other hand, it conduces to the action and power of the muscles; whilst, by an ingenious antagonism of muscles and tendons, the *osseous angles* acquire, in the given time, a sufficiency of stiffness to resist impressions having a tendency to close them, from which they relax only at such times as re-action is called for. Thus, by a mechanism and disposition so admirable, is insured two opposite properties, rigidity and flexibility, through the agency of which the limb answers the double purpose of a column of support and an organ of impulsion

“ These properties, though common to both fore and hind extremities, are not possessed by them in equal proportions, owing to the hind limbs being more particularly the agents of impulsion, while the fore are more engaged in support.

* * * *

“ What most strikes us when we come to examine into the structure of the foot*, considering it as a part of the locomotive apparatus, is, the predominance of passive agents, such as bones and ligaments and tendons, over active ones or muscles. Muscular fibre, we might say, has no existence, save in the *lineamentary* form, as within the substance of the suspensory ligament, and in the little lumbricoid fasciculi, *sortes d'organes d'attente*, which appear to have no other use in the animal economy than that of denoting the transition to a more complex organization.

“ Regarding the foot, then, as purely objective, we come at once to the conclusion, that its part in locomotion is exclusively *passive*. That, constituted as it is of the basement layers of the column, it unceasingly sustains the entire weight of the body while in progression. The same weight undergoes all the augmentation the force of animated impulsion necessarily imparts to it; besides which, it becomes the *point d'appui* to the various locomotive levers of which it forms the termination. And, lastly, it becomes a very powerful agent, in its operation as a spring in the distribution of the weight transmitted to it; thus moderating the effect of pressure upon the ground, as well as the force of the re-action of necessity resulting therefrom.”

Omitting what follows on,

I, The Mechanism of the Articulations of the Foot,

II, The Functions of its Tegumentary Membranes and Fibro-elastic cartilaginous Textures,

We come to what in our country is apt to command more attention, viz.

III, The Part the Hoof plays in Locomotion.

“ The hoof answers a triple purpose :—

“ 1st, It serves as the *point d'appui*.

“ 2dly, It protects the living parts from the contact of such bodies as might do them injury.

“ 3dly, It also contributes, along with the fibro-cartilaginous apparatus of the coffin bone, to the development of that property of elasticity, the conditions of which are so admirably combined in the construction of the locomotive column.”

* The word *foot* is used here in the most comprehensive sense, to denote all below the knee and hock respectively.

Taking no further notice of the first two of these functions of the horny box, we arrive at the grand question of the Mechanism of the Hoof as an Apparatus of Elasticity.

“Elasticity, or, in other words, the property of deadening or stifling the commotions occasioned by the percussion of the foot against the ground, is produced within the horny box, 1st, by the inherent property of the substance composing it; 2dly, by the vast relative extent of surface it presents for *appui*; 3dly, by the mechanical arrangement of the different parts entering into its composition.”

Although the first two of these assist, but in different ways, in warding off the effects of concussions, it is the last in particular which physiologists regard as (*par excellence*) the contrivance for carrying this important operation into due effect. This interesting inquiry M. Bouley divides into two parts. First, he enters into a history of the different “systems” that have been offered in explanation of the elasticity of the hoof; and, secondly, he gives his own views of the much agitated question.

“*History of Elasticity of the Hoof.*”

“LAFOSSE’S (senior) notion was, that the hoof possessed an elasticity of its own, owing entirely to the property of flexibility inherent in the horn of which it was composed, which rendered it capable of yielding to pression at whatever part it might be applied, of adapting itself to irregularities of ground, and of serving as a protection to the parts it incloses.”—“Evidently, Lafosse imagined that the flexibility of the hoof amounted to no more than that of caoutchouc, yielding to pression, and returning on the cessation of that pression to its original form.

“Now, this falls far short of the views Bracy Clark has so well developed in his (*remarkable*) treatise on the organization of the foot of the horse.

“According to the learned English veterinarian, elasticity is a property possessed by the entire horny box, the result not only of qualities inherent in its substance, *but, especially and principally, of the mechanical disposition of its different constituent parts.* In the conception of Bracy Clark, the hoof is a veritable mechanical apparatus, admirably contrived for re-action, after the manner of an elastic spring, under the force of pression, in which manner is completed the entire machinery (*ensemble des rouages*) of the locomotive system.”

We subjoin, in his own words,

Bracy Clark's Theory of the Elasticity of the Hoof.

"Elasticity," according to Bracy Clark, "is the inestimable property that guarantees the foot from fatigue, preserves it from jar, and the body from re-action and concussion, and all the injuries which a too solid resistance would have occasioned to both, and probably assisting also the animal in his advances by a return to its former figure after distention*."

In demonstration of its elastic property, as a whole, Bracy Clark commences by resolving the hoof into three constituent parts; *a division that had not been made*, says M. Bouley, *before*, and therefore one which he, with justice, claims as his invention.

"In order to illustrate these subjects" (the arts of shoeing, its difficulties and mysteries), we quote from Bracy Clark, "we shall divide the hoof into its constituents of three distinct parts, *which has not been attended to before*; and view them afterwards connectedly, to shew that they produce by their combination not only a box of horn for the covering the foot, as it has been hitherto generally regarded, but also a most beautiful machine, possessing remarkable properties, and an almost indefinite power of yielding to the load, a property as indispensable as the defence and protection that it so obviously afford†."

To this we append—what M. Bouley had it not in his power to supply, from not being in possession of, indeed, we may say, from never having even seen, Coleman's work on the Foot—

Coleman's Theory of the Elasticity of the Hoof,

which runs as follows:—He asserts, that the weight of the body is sustained within the hoof by the laminæ, not by the sole and frog, though the sole receives *secondary* impulse from it, and the frog also each time it receives pressure from the ground;—that the laminæ, from their elasticity, admit of the descent of the coffin bone, downwards and backwards; and that the coffin bone in this motion forces down the sole. That at the same moment that the sole is pressed down, the frog, by the pressure it receives from the ground, is forced upward, against the fibro-cartilaginous substance above it. This being rendered broader by the compression, dilates the lateral cartilages, which in consequence of such dilatation expand the heels, and impart a tendency to the newly-formed horn at the coronet to take an

* Hippodonomia, p. 27.

† Hippodonomia, p. 31.

outward direction in its growth downward. These several parts, viz. the laminæ, the sole, the frog, the cartilages, and the horn at the coronet, as soon as the expanding force is removed, by virtue of their own inherent elasticity, recover their original dimensions and relations.

Coleman's work may be cited as authority in proof of the truth and genuineness of these statements.

"The horny sole, frog, and bars, have their respective functions, and their uses are highly important; but they do not perform the function commonly ascribed to them, that of supporting the weight of the animal; indeed 9-10ths at least of the sensible and horny frog are placed behind the coffin-bone, and therefore cannot support any considerable part of the weight. The laminæ, about 500 in number, at every step act as so many elastic springs," &c.—"This elongation of the laminæ is, indeed, one great excellence of that wonderful piece of mechanism; for, if the same extent of surface, and the same degree of strength of union, had been formed of bone, or any other inelastic substance, concussion or fracture would probably have followed. Without motion there can be no spring, and as both horny and sensible laminæ are elastic in their structure," &c.* "whatever, therefore, may be the degree of motion in the coffin-bone, the horny sole opposite must always descend in the same proportion," &c.†

"That the use of the horny frog is to prevent the horse from slipping, by its convexity embracing the ground, and from the elasticity of the sensible and horny frogs, they act as a spring to the animal, and keep expanded the heels."‡

"In the natural state, when the horny frog meets the ground, the superior portion of the sensible frog ascends between the side cartilages, and the wedge-like form of that organ necessarily opens the heels of the side cartilages. The expansion of the side cartilages, at every ascent of the horny and sensible frogs, not only gives a powerful spring to the animal, and enables the frogs to complete their function, but the direction of the growth of the crust at the quarters and heels is absolutely governed by the motion of the side cartilages."§

Now, unless it can be denied that these passages comprehend the principle of the elastic property of the hoof as an integral structure, seeing that Coleman's work was published in 1802 and

* Observations on the Structure, Economy, and Diseases of the Foot of the Horse. By Edward Coleman, Professor at the Veterinary College, 1802. Vol. ii, pp. 82, 84.

† Op. Cit. vol. ii, p. 65.

‡ Op. Cit. vol i, p. 106.

§ Op. Cit. vol. ii, p. 68.

Bracy Clark's in 1809, it is evident that the merit of discovery of the said principle cannot rest with Clark. Not that we mean to contend that Coleman was its originator; for, if we did, we should shut out one who, we believe, holds superior claims still to it; and that is, Strickland Freeman; whose work, "On the Mechanism of the Horse's Foot," explaining "its natural spring," was published in 1796. We have not the work within our reach at this moment, but hope to have it before we shall have occasion to recur to the subject, and then will submit some quotations in elucidation of our expressed opinion and belief.

[To be continued.]

Foreign Department.

ON DORSO-LUMBAR SPRAIN IN THE HORSE.

By M. ARM. GOUBAUX,

Professor of Anatomy and Physiology at the National Veterinary School at Alfort.

DORSO-LUMBAR SPRAIN (known in England by the names of *Swaying of the Back*, *Broken Back*, *Chinked Back*, *Ricket Back*, *German*, &c.) is a simple stretching of the vertebral ligaments (intervertebral discs; common, superior, and inferior intervertebral ligaments, &c.), or else a rupture of the intervertebral discs of the dorso-lumbar portion of the spine. This disease is still known (in France) by the name of straining or twist of the reins, and is characterised by a peculiar symptom called *tour de bateau*.*

THE CAUSES of sprained reins, or dorso-lumbar sprain, are divisible into predisposing and occasional.

HORSES ARE PREDISPOSED to it from their conformation, from having long or hollow backs; or from the kind of use that is made of them, such as shaft horses and baggage horses. Oxen used in the same manner are likewise subject to it.

THE OCCASIONAL OR MECHANICAL CAUSES, those which ordinarily give rise to sprained reins, may be arranged under three heads:—1. Pression exerted upon the vertebral chain by too weighty burthens. 2. Falls. 3. Muscular efforts. It will be necessary to shew

THE MODE OF ACTION OF EACH OF THESE CAUSES.—Under the influence of *pression*, operating from above downward upon the dorso-lumbar portion of the spine, the posterior articular

* The peculiar *sinking* or *falling in* of the back manifested in action, and in particular in turning.

processes of the vertebra cover completely the articular processes of the following vertebra, while the vertebræ themselves tend to separate one from another by their bodies. Pression re-acts upon the intervertebral discs, which, under its influence, become thicker at their inferior than at their superior parts. Thus pressed upon, the vertebral chain describes the arc of a circle whose convexity is below.

At the moment I am writing I have upon my table several specimens of diseased spines, and one among them presents the curvature in the opposite direction to what I have described.* Indeed, what I have said is so true, that ossifications and osseous stalactites uniformly make their appearance in the dorsal region, along the inferior parts of the bodies of the vertebræ. In the lumbar vertebræ they commonly come upon the sides, and sometimes, though rarely, at the bottom as well.

If the force of pression acts by slow degrees on a young horse, we can easily understand how it happens that such animal, although well made originally, becomes in time hollow-backed. We have had for several years past a horse under our eye who has furnished us with a good example of it.

In an adult horse changes of the kind mentioned may, under similar circumstances, take place without our being at all from any external appearance aware of their existence. In regard to this, I have remarked that when the use made of horses about Paris was different from what it is at present, many cases of ossification of the spine came under our notice among the subjects sacrificed for the purposes of the College. But since vehicles have been in use for transporting merchandise to the different markets in Paris, in place of transporting it upon horses' backs, such lesions have been rarely met with.

Supposing, however, on the other hand, that this force of pression comes to act all at once, is it surprising that it should produce more than stretching, more serious lesion, such as rupture of the intervertebral discs, or even fracture of the vertebral chain. M. H. Bouley and myself have witnessed an example of this taking place even under our own eyes, in a horse drawing an overloaded carriage, the axletree of which broke: the animal died immediately after the accident. And I could mention other analagous cases.

* Several examples stand on record of deviation of the dorso-lumbar spine. Girard, junior, saw a congenital instance of it in a mare some years old. (Rec. de Med. Vet. 1824, p. 145.) M. Pouchy has likewise given an example of it under the title of: *Observations on an extraordinary Anomaly of the Dorsal and Lumbar Vertebræ in a Yearling of strong Constitution.* (*Memoirs of the Veterinary Society of the Provinces of Calvados and de la Manche*, 11th Year, No. 8, p. 104.) This case has no relation to strain of the reins.

In April last, I saw at Neubourg a mule with a double curvature of the dorso-lumbar spine, from below upward and from before backward; but I was unable to learn any particulars about the animal.

2. From falls, stretching of any of the ligaments, and especially of the intervertebral, with rupture of the latter, or disunion from their adherent surfaces, does not appear to me to be possible to take place in the direction of the axis of the spine, neither from above downward, nor from below upward; the common vertebral ligaments (superior, inferior, and sub-spinal dorso-lumbar) are opposed to it. Let us, then, inquire in what direction such accidents can happen.

They can only happen in the *lateral* direction, because sideways there is nothing to diminish or ward off the force of impulsion but the intervertebral disc itself. In this way only, as we see done every day, in directing force suddenly against one side of the spine, while the other remains fixed, have knackers any chance of succeeding in destroying the principal bond of union between the bodies of the vertebræ. But, does it not happen sometimes that a horse falls head-foremost, and comes upon his side? Admitting the possibility of falls of this description, it is easy to understand how such accidents take place. In such manner may fracture be produced; though I cannot admit the possibility, until I see evidence to the contrary, of *luxation*, which I myself believe to be impossible between these vertebræ.

Fractures may take place, either in *continuity* or *contiguity* (a division of them not usually made, nevertheless one which I believe necessary). It is a division, however, requiring explanation. I do not insist upon the fact of fracture of continuity, because they are those which ordinarily occur, as I have frequently seen in the course of my dissections. Those that I call *fractures in contiguity* are comparatively rare. This happens in the ball and socket joint, between one vertebra and another. At the same time that the intervertebral disc is ruptured, the head and cavity upon the bodies of the vertebræ corresponding to it are more or less altered from their normal form, either immediately after the accident has taken place, or consecutively in the course of the consequent inflammation attacking both the exterior and the interior of the articulation.

3. VIOLENT MUSCULAR EFFORTS may produce rupture of the spine. I have known several instances of the occurrence in horses that have been cast for operations. M. Rousseau, ex-veterinarian-in-chief to the 4th regiment of artillery, has communicated to me an analagous case, happening under rather extraordinary circumstances, at the time when he was in garrison at Vincennes. A horse having the mange had got himself underneath the iron bar to which he was fastened up. He made a violent effort to disengage himself, in doing which he fell over it, and came with force upon the ground, and thereby fractured his spine.

Under the circumstances to which I have adverted, the

accident occurred in a manner directly opposite to that in which it is produced under the influence of pressure from above downward. The vertebral chain in the case under consideration tends to form an arc whose convexity is superiorly, so that one might almost say that the fracture was produced by crushing, or through concentration of effort upon the central part of the arc, represented by the bodies of the vertebræ.

At a time when a horse's legs are shackled all close together, it is truly surprising that this accident (in casting) does not happen oftener than it does.

Before I close this division of my subject, I will add Garsault's opinion on these accidents:—

“The pairs of muscles, called *spinales et semi-spinales dorsi*, are subject to receive harm from horses being too quickly unsaddled at a time when they are hot, in consequence of taking cold and becoming relaxed to a degree depriving them, in some measure, of feeling and motion. This accident happens more commonly among old and lean horses, with whom, from their weakness in the abundance of their phlegmatic humours, these muscles are often so much relaxed that they can hardly drag their bodies along.”

Pathological Anatomy.

Let us now inquire into the lesions the consequence of such causes.

The diseases manifested exteriorly by *tour de bateau* (broken back) are numerous enough, while the authors who have engaged in this question of pathology make us sensible enough of it by the different names they have made use of, and the various descriptions they have handed down to us.

Garsault (in the work afore-mentioned) says, that sprained reins is oftener a relaxation of the spinal muscles than a dislocation of the vertebræ.

Other authors of less ancient date (Bourgelat and Vitet) have ascribed the symptoms to luxations and fractures of the vertebræ; or, finally, to straining of the ligaments uniting the different pieces of the vertebral chain. In this last case it is that one may say that the animal has *dorso-lumbar sprain*, or *sprain of the reins*. The same authors attribute also to this, manifestation of contraction, more or less violent, of the muscles.

Rigot, who has reported two cases of these accidents, believes he has discovered that the lesions causing broken back are of a very different description from any we have seen.

CASE I. is that of a harness horse, who was brought to be destroyed for the purpose of dissection. Having subjected him to examination, in order to ascertain what had rendered him unserviceable, I felt convinced that he was labouring under

sprain of the reins. In his post-mortem examination, I discovered that the great psoas muscle on the left side had become considerably augmented in volume, that its tissue possessed less firmness, and that its cellular sheath was reddened and infiltrated. In its interior I found several clots of black blood, floating in a cavity whose parietes were thin, to which they were adherent by red filaments, which proved to be the extremities of lacerated muscular fibres.

This case, in my opinion, is not one to our point. I do not think that the reported alteration in the psoas muscle had any thing to do with the sprained loins. I have seen such changes present on several occasions without any such affection.

CASE II. is one wherein there was present spontaneous and recent rupture of the internal ligaments of the hip-joint. The symptoms observed, on account of the wry action of the hind quarters, gave rise to the belief that there was sprain of the reins or engorgement of the spermatic cords.

In concluding this enumeration of the lesions which have been adduced as explanatory of broken back, I may mention that I have observed this symptom present in a horse who had an obliteration of the posterior aorta at the place of its bifurcation.

Properly speaking, broken back is so remarkable and characteristic, that it is symptomatic of lesions of the spinal chain in general. I shall, however, here exclude—1st, what are called *luxations*, for reasons I have already given; and, 2dly, *fractures*, the symptoms of which are such as either to paralyse the animal or deprive it of all power of standing. So that there remains but strains, or rupture of the intervertebral discs; accidents which alone, in my opinion, have a right to be called *strains of the reins*, or *dorso-lumbar sprains*. In fact, this proves to be the seat of lesion in the great majority of horses exhibiting sprained back when they come to be destroyed; and if I do not say, *in every case*, it is because Garsault's imperfect observations on the spinal muscles leaves one in doubt but that they may be implicated, though I do not regard that as the principal or essential lesion. But now let us inquire into the *seat* of the lesion.

THE LESIONS ARE SITUATED sometimes in the lumbar region, sometimes in the dorsal, sometimes in both regions together. The extent of the lesion depends, without doubt, upon the *modus operandi* of the cause. The lesion is frequently found opposite to the articulation of the twelfth with the thirteenth dorsal vertebra; an observation which confirms what I have asserted takes place in the spinal chain under the influence of pression acting vertically, from above downward, upon it; it is likewise in this same part that fractures happen through the violence of muscular effort. In fact, this is the articulation

which is situated precisely in the middle of the dorso-lumbar spine, and, consequently upon it, it is that all effort of any kind becomes concentrated, let it come in what direction it may, from below upward or from above downward. In other and rarer cases, it happens quite in the anterior part of the dorsal spine, in the articulation between the second and third dorsal vertebræ, or in that between the third and fourth; or, else, in that between the seventeenth and eighteenth vertebræ.

The greater frequency of the accident in the lumbar vertebræ than elsewhere becomes satisfactorily explained on the score of the lumbar being in every way the most moveable portion of the spine.

As to the dislocation of the lumbo-sacral vertebræ, of which Garsault has spoken, I believe it possible in the ox, on account of the anatomical construction of his spine, and most rare, if indeed possible, in horses, for the same reason.

Let us now consider the spinal lesions; which are, 1stly, on the vertebræ themselves (lesions of the bones); 2dly, on the articulations (lesions of the articulatory surfaces and their means of repair).

THE LESIONS OF THE BONES which one remarks around the vertebræ, as consequences of the causes but now detailed, may be with reason regarded as means employed by nature to give greater resistance to the spinal column, as a sort of reparation of the damages it has sustained in the dorso-lumbar region. In fact, these are veritable ossific vegetations, veritable buttresses, variable in their spread, running from one vertebra to another.

These osseous vegetations, which some authors have named *osteophytes*, most commonly make their appearance first along the inferior surface in the dorsal region, reaching the sides of the bodies of the vertebræ but by degrees, or, else, they surround all at once the vertebral amphiarthrosis. In the lumbar vertebræ, as I have formerly endeavoured to account for by their greater mobility, it is most commonly found upon the lateral parts, either on one or both sides of them at once.

These ossifications at times assume a knotty aspect upon the bodies of the vertebræ, pushing the posterior aorta more or less out of its place, and sometimes surrounding it in such manner that the vessel has to run through a bony canal. In the lumbar region, the less psoas muscle sometimes experiences a deviation of its fibres, with more or less discolouration of them. At the anterior part of the dorsal region the thoracic portion of the *levator humeri* becomes more or less altered.

When osseous tumours are recent, there appears a very remarkable sanguineous vascular development upon their surface, and sometimes even upon the neighbouring organs (aorta and grand sympathetic nerve, &c.); whereas, on the contrary, when they are old, they have the ordinary taint of osseous tissue.

After maceration, we perceive the inferior surface of the bodies of these vertebræ to be most commonly perfectly smooth; or else roughened; sometimes, however, they present enlargements more or less voluminous, and always, in this case, contiguous to an articulation, though the articular surfaces themselves (head and cavity), which have the appearance of being lower down, are ordinarily in this normal condition. There are, indeed, some cases in which the trace of articulation of the vertebræ by their bodies has, *so far as outward appearance goes*, completely disappeared.

In all cases, therefore, there exists less mobility than in the normal state, but more power of resistance, since there is all the difference between an inflexible column and a jointed one.

In other subjects, ossification is not confined to the bodies of the vertebræ; we see it extending around the articular and spinous processes, &c. I am in possession of a spine—of which I shall have reason to speak hereafter—wherein all the spinous processes of the withers are a mass of ossification.

The transverse processes of the last two of the lumbar vertebræ are likewise frequently ossified together, as well as the last two ribs.

As to the sacro-lumbar articulation, Rigol doubts very much, in admitted contradiction to the general opinion, that the sacrum and the lumbar vertebræ can become ossified together; and the reason he gives for this opinion is, first, that the mobility of this joint appears indispensable to the solidity of the spine, and its power of resistance in the impulsion of the hind limbs; and, secondly, from having inspected a great number of carcasses without meeting with either an accidental or permanent anchylosis of the kind, even when all the other lumbar vertebræ have been joined together by osseous deposit. Pagnier, however, says he has seen, on several occasions, the six lumbar vertebræ and the sacrum ossified together by their transverse processes and bodies, so that the whole had the appearance of a single bone.

For my own part, I have never seen ossification so complete as this. But I now hold in my hand part of the skeleton of an English stallion, thorough-bred, in which the sacrum is completely united with the transverse process of the last lumbar vertebra on the left side only; whilst the corresponding articulation on the right side, those of the articular processes, and that of the body, are perfectly normal. So that, evidently, ossification of this articulation is possible, but it is exceedingly rare.

2. LESIONS OF THE ARTICULATIONS.—We are not to suppose that, in every case in which there is considerable osseous deposit surrounding the bodies of the vertebræ, there exists any thing beyond spurious anchylosis of the vertebral column, any true anchylosis or osseous adhesion between the articular

surfaces themselves: this, on the contrary, is an exceedingly rare occurrence—one, therefore, that will require especial notice.

A. The articular surfaces are sometimes completely denuded, deprived of the intervertebral discs. In making a section of the spine through its axis, cutting through the middle of the osseous mass in which they are enveloped, we find the articular surfaces smooth, and in their proper position and relative distance, with their intervertebral discs perfectly free. The articular surfaces (ball and socket) present there the same appearance as the long bones after maceration, when they have been deprived of their diarthrodial cartilaginous plates.

B. Sometimes the intervertebral discs are evidently stretched, or else they are partially destroyed around their circumference. In this state they exhibit a yellow tinge of more or less intensity, sometimes slightly greenish; while the destroyed edges, in contact at the time, are perfectly smooth, as though they had all the time been rubbed one against the other. At another time, the intervertebral disc has been completely ruptured, presenting then, upon the entire ball and corresponding socket, the characters beforementioned.

C. In other animals in which rupture of the disc had taken place, and where there had been stretching of the superior and inferior common vertebral ligaments, I have found a sort of ulceration, of more or less extent, of the articular surfaces and surrounding parts of the vertebræ, several spinal abscesses, internal and external, &c. I have reported two cases of this description, and we shall see to what extent under such circumstances they may be multiplied.

D. I now come to speak of those cases of pathological anatomy on which Rigot has given an opinion, perhaps too absolute, in the following passage:—Ossification or change into bone of the intervertebral fibro-cartilages is much more rare than is generally believed, since, in the immense majority of the cases of intervertebral ankylosis which I have had occasion to observe, I have never seen these bodies so changed.

That this is an exceedingly rare occurrence, is true; at the same time I have met with some instances, and I have recorded two or three of them, one between the second and third cervical vertebræ, another between the second and third dorsal vertebræ. In this same spine are likewise coalitions, almost complete, between the second and third, fifth and sixth, and sixth and seventh vertebræ; and it is abundantly evident, as I said in another place, that ossification proceeds on the articular surfaces from the circumference to the centre.

In man, ossification of the vertebræ, or veritable ankylosis of them, though rare, is more frequent, perhaps, than in domestic animals, owing to the greater duration of life, and probably also to difference of station. Some splendid examples of it are to

be seen in Dupuytren's museum, and particularly in Seraphin's skeleton, the inventor of the Chinese shades in France.

There is a curious coincidence between pathological ossification and normal ossification of the discs of the vertebræ. Descriptive anatomy teaches us that they are everywhere of uniform texture, possessing identical physical properties; but is it not remarkable to see normal ossification so early between the different pieces of the sacrum, and ossification so rare in other parts? To what is this difference owing? Probably to nothing more than the mobility existing in the various regions.

Whenever vertebræ are in this manner ossified together, the layer of fibro-cartilage covering the ball and socket is completely gone, allowing the spongy tissue of the two vertebræ to come into immediate contact.

And when the vertebræ are invested in a coat of osseous matter, longitudinal section of the spine lays open to view a thickened condition of the fibro-cartilage, from which the spine derives, in addition to augmentation of volume, a greater degree of resistance. In certain parts, so great is the increase of thickness at times that I have found it amount to nearly an inch, according to actual measurement.

Récueil de Méd. Vét. de Juin 1851.

[To be continued.]

Home Department.

REPORT OF A CASE OF ACUTE GLANDERS, FOLLOWED BY RECOVERY; WITH REMARKS.

By F. W. MACKENZIE, M.D.,

Physician to the Paddington Free Dispensary for the Diseases of
Women and Children, Fellow of University College, &c.

IT is unnecessary, at the present day, to adduce any additional facts or arguments to prove that glanders is a disease which is communicable from the horse to the human species: this has been completely established by the researches of many accurate observers, and is, I believe, generally admitted by the profession at large. As, however, the recorded cases of its occurrence in man are not very numerous, from the fact, probably, that it is not readily communicated to the human race, and as, consequently, many points relating to the pathology of the disease are obscure, it is presumed that the report of an additional case will not be unacceptable to the profession. I therefore subjoin the particulars of one which has lately been under my care, and have added some remarks, which have been suggested by a consideration of it.

CASE.—William Wilcox, a horse-keeper, aged fifty-eight, was admitted into the Paddington Infirmary late in the evening of the 19th July. He was seen by me the following day, and appeared to be very dangerously ill. His face generally was swollen and suffused, but more especially in the submaxillary region. A large quantity of saliva was pouring from his mouth, his breath was extremely fetid and sickening, his gums were swollen, and his teeth loose,—some, indeed, were merely hanging from the gums. The tongue was much enlarged, and could not be protruded beyond the margin of the teeth, and it was forced upwards against the roof of the mouth by the swelling of the salivary glands below; the throat was constricted, and consequently both breathing and swallowing were difficult. His nostrils were filled with a thick glutinous secretion of an offensive odour, which was with difficulty dislodged. The patient had been very restless all night, had been constantly throwing his arms about, was alternately chilly and hot, and at times sweated profusely; he had a quick pulse, and was in a state of extreme prostration. Looking to the profuse salivation, the condition of the salivary glands, the extreme fetor of the breath, and the state of the gums and teeth, my first impression was that he had been severely salivated with mercury. It appeared, however, that he had not taken a particle of this medicine for some time, and his general symptoms were, moreover, inconsistent with this view. After a great deal of trouble, occasioned by the difficulty he had in articulating, the following history was obtained.

He had for some time past been in very destitute circumstances, in consequence of having been out of regular employment; his food had been scanty and bad, and he had been accustomed to sleep about in stables, or wherever he could get a shelter for the night. Under these circumstances, he accepted the charge of some glandered horses at Islington. He began attending to them on the 30th of June, and, at one time, had thirteen under his care, but some became so bad that they had to be sent to the knackers. In grooming them, the secretions from their mouths and nostrils were frequently blown upon his face, and the stench of the stable in which they were kept was very great. A week after he had been looking after them, he began to feel feverish and ill; his stomach, in particular, became disordered, and his appetite bad. He was now anxious to give up his employment, but his master pressed him to stay, and he remained for several days longer. He got progressively worse, and at length applied for admission into the Infirmary, where I saw him at 2 P.M., on the 19th July. He was then worse than when admitted, his breathing was more difficult, and the swelling of his face was increased: this was most marked, as I have said, under the lower jaw, where it formed

an enormous tumour. I have already mentioned some of his symptoms, but it may not be amiss to recapitulate the following.

There was a profuse discharge of saliva running from his mouth; the tongue was tumid, and its surface covered with a white, moist fur; the gums were soft and swollen, and his teeth loose. On passing my finger under the tongue, a large elastic tumour was felt on each side of the frænum linguæ, apparently consisting of the enlarged sublingual and submaxillary glands, and the distended ducts of the latter. I made a free incision in each of these, and a great quantity of clear glairy mucus poured out, which gave the patient much relief. I was unable to examine the throat, on account of the general swelling of the parts; but, from the character of the breathing and the difficulty of swallowing, it was evidently swollen, and the isthmus faucium contracted: I could not, however, see any appearance of erosion, ulceration, or pustules. The nostrils were filled with a viscid, yellow, opaque secretion, which, as I have said, was with difficulty dislodged, on account of its tenacity. The conjunctivæ were injected, and the eyes watered profusely. The patient complained of severe headache, which was greatest over the eyes and frontal sinuses, but at times it was felt over the greater part of the head. He was very sick, could not retain food upon his stomach, and was very restless and uneasy. He stated that he had not slept for a week. He was alternately chilly and hot, and, at times, broke out into cold sweats. His pulse was quick and weak, and he complained of great lassitude. He had no rheumatic pains, or any perceptible eruption on the skin or mucous membrane; the blister which had been applied had risen, and had a greenish, sloughy, unhealthy appearance. His bowels had twice acted during the morning, and he made water freely.

Treatment.—He was directed to take immediately an emetic, consisting of half a drachm of ipecacuanha, and, as soon as the vomiting had ceased, to take five grains of the sesquicarbonate of ammonia in water, every hour, as concentrated as he could swallow it; to use frequently a gargle of chloride of lime; and to have wine and such nourishment as he could swallow given freely, and to take an opiate at night, consisting of twenty drops of the tincture,

July 28th.—Up to this date he had been daily gaining ground, under the continuance of the ammonia, and an occasional dose of blue pill, with animal food and porter for diet. The ammonia was discontinued on the 25th, and since then he has been taking merely a nourishing diet, with a pint of porter daily. He now wished to be discharged, declaring that he never felt better in his life. He left the next day.

The “report of the case” we have just concluded the perusal

of, sets out with the mention of the fact, now "established" and "admitted," of glanders "being communicable from the horse to the human species," and we might add *vice versâ*. Yet, in the face of this "established" and "admitted" fact, stands one not less notorious to the veterinarians of Coleman's time, denying, at that day, the possibility of such a transfer. Many a time and oft, on the faith of Coleman's assurances, while attending his lectures, have we imbued our hands, nay, sprinkled our faces, with the matter issuing from the glandered subjects, living as well as dead, we were at the time engaged in examining. And on many an occasion, after quitting "College," have we repeated the same thing; and yet have at no time imbibed—never once, indeed, dreamt of imbibing—the poison of glanders. It really quite makes us shudder at the present moment to reflect on what we have done! How came it that we escaped? how comes it that inoculation has failed in hundreds of others—slaughtermen, grooms, and farriers, veterinary surgeons and pupils? Has the disease changed its nature? or have our natures changed?

The present case shews—what we have always ourselves felt inclined to suppose—that, for the human being to take glanders, the general health must first suffer either depression or derangement. We do not believe that a man in health, the same as a horse in health, is in danger of contracting the disease. Else, how could the numbers of men employed about glandered horses and glandered carcasses escape the disease as they do? There is, certainly, not the same aptitude for transmission from horse to man as from horse to horse; neither do we believe that men would take the disease in many situations in which horses are thought to do so.

The case before us has symptoms which we do not recognise among the symptoms of glanders in horses; at the same time it lacks signs which we regard as especially diagnostic of the disease. Inoculation of an ass or sound horse with matter issuing from the man's nose might have resulted in the settlement of this question of identity.

The fact of the disease in the case in question admitting of a recovery is, *pro tanto*, an argument against its being *glanders*: glanders, it being well known, hardly ever, in its *acute* or genuine form, recovering; and when it does, so far as we can judge, it is not on account of any means or medicine employed. Out of a hundred cases or more we have witnessed, and treated, we can recall to memory but some three or four that have recovered, and they were "spontaneous cures." We thank Dr. Mackenzie for his recommendation of ammonia. We have cases in our eye, leaving glanders out of the question—such as influenza in some of its forms, scarlatina, purpura,

&c.—in which we think it possible much good might accrue from the more extensive use of such a remedy in veterinary medicine.

ON POUCHED HEART :

A DISEASE INCIDENT TO CATTLE DURING THE PROCESS OF FATTENING.

“ Confestim apparebit.”

[From the Farmer's Magazine for June, August, October.]

THE subject of this communication is the result of a series of facts noticed for some years past. The observations built upon the facts are sincerely intended to advance the interests of those concerned in the rearing and feeding of cattle : at once shewing the impolicy, the inutility, and the injuriousness of the process of fattening, by which the animal is rendered unhealthy as soon as this condition goes beyond the development of its natural standard. The object of this communication is to point out momentous truths, in a direct form, connected with an important disease very common to cattle ; and to give in detail the serious consequences which the disease involves : together forming a subject of no mean consideration to the holders and owners of land. Care will be taken to avoid as much as possible what are called “ technical terms,” in order that most of your readers may comprehend the information intended to be conveyed, rather than to dwell upon such significations, which would be not only excusable, but warranted, if all equally understood them. On the other hand, if there should appear a looseness of phraseology, if expressions should be used which are altogether illegitimate, they are given because they are frequently heard amongst graziers and agriculturists—the expressions are used to signify what these persons intended them to convey. * * * *

In the “ pouched heart ” is to be observed the altered form of the right ventricle, unnaturally dilated and much attenuated ; this constitutes a dangerous and incurable disease incidental to cows and stall-fed oxen during the process of fattening.

A lengthened series of observations warrants the assertion that seven out of every ten of animals unduly fatted, or made fat by artificial food, are subject to this disease—in which the flesh is beginning to degenerate into a fatty substance (adipocere), by being in constant proximity to a non-nitrogenous substance holding hydrogen in abundance. So that in fatted animals there is in reality a loss of flesh instead of increase, and in this condition they are slaughtered for human food. Yet, forsooth, the grazier views with mistaken satisfaction the marbly appearance, when slaughtered, of the muscles of his pampered kine.

“The accumulation of adipose matters evinces more or less of diseased action in some of the organs concerned in the general function of nutrition. Hence the notorious fact, that almost every animal which is fatted and killed for human food is actually in a state of disease when butchered.”

The accepted economy of fat on the exterior of the carcass is that of a soft cushion for the easy gliding of the muscles below it while they are in action, and moreover to assist in the preservation of animal heat. But the fatty degeneration before-named in many points resembles the changes which take place in normal structure when transformed into cancerous deposits, so that it may be seen how closely their degeneration is allied to malignant disease.

To preserve health, *waste* and *supply* must be kept in their natural order. Any deviation in the proper quantity and quality of food destroys this equilibrium, and, of course, is injurious to health.

Of all the organic muscles, the heart is the most irritable; and being so, whatever interferes with its irritability must necessarily produce in it disordered action or functional derangement; that is, the regular succession or uniformity of the heart's movements is altered, and of course the proper supply of blood from this, the centre of circulation, to all parts of the animal machine, deviates from a healthy one: the heart has lost its wonted regularity and impetus. This irregularity in the circulation of the blood is the fountain and origin of disease in the system at large, as well as in the heart itself.

“Post vehementum vero, aut insolitum, aut abnormem motum, inviti etiam motus musculi quodammodo debiliores evadunt.”

There cannot be a doubt of the influence that habits of diet have in altering the quality of the circulating fluids—that certain kinds of diet produce changes in the blood, and in the secretions derived from it.

When the blood (from which all secretions are derived) is unhealthy, all else must go wrong. This fluid, once rendered impure, is the approximation to hereditary disease. Place the animal under the same circumstances which gave rise to the disease in the generation that preceded it, you will have the same disease augmented and confirmed. How many instances may be adduced from the vegetable kingdom to prove the like peculiarity of constitution to produce hybrid races!

“The otter breed of sheep,” says Dr. Pritchard, “sprung from an accidental variety or deformity in one animal, which communicated its peculiarity to its progeny, so that the breed is established. Indeed, the various kinds of cattle are produced by these accidental circumstances, and are so perpetuated, even of a most extraordinary sort.” “The greatest variety yet obtained in animals is produced by domestication” (Cuvier).

These changes in breed are the results of the quality and quantity of the blood; but it by no means follows that healthy development of the muscular system is the result of such changes.

When there is a greater quantity of venous blood in the right ventricle than what is natural, it remains there a longer time than is consistent with the healthy contraction of the heart, and interferes with the fitting capacity of the lungs. That which in a proper quantity and quality is a healthy stimulus, otherwise becomes a source of morbid irritation. When, too, it is known that so minute a quantity as one ten-thousandth part of some bodies completely changes the character of the compound with which they may be combined, there is no need of surprise as to the morbid effects of unhealthy blood, because of the minute deviation scarcely appreciable from its healthy condition.

In the words of a celebrated physiologist, "To preserve health, the natural quantity and quality of the blood must be in strict relation with the power of the heart and the capacity of the lungs. There is no doubt that a certain composition of the blood is one of the most important conditions to a due exercise of the different functions" (Majendie).

Here, then, the composition of the blood is all-important to the exercise of the different functions. When the venous blood is in excess, the ventricle does not act simultaneously; so that, after it has overcome its difficulty, the part so unusually irritated becomes dilated or pouched. This effect is augmented by the increase of density and of the specific gravity of the blood, in which there is an excess of carbon.

The disease of "pouched heart" once established, the animal is removed from a healthy state. The proportion of venous blood increases through the carcass: the fluid is not only altered in healthy quantity, but its healthy qualities also. It is deprived of a great part of its natural proportion of fluid, its electrical state is altered, its chemical properties are changed.

The disease in question is observed to commence in that part of the ventricle which would be most influenced by the extra weight of the contained blood; that is, opposite to the origin of the pulmonary artery. Here the ventricle first becomes thin. As the disease advances, the dilatation of the cavity goes on, from before backwards, to the entire enlargement of the ventricle, down to the apex, where the septum divides the right from the left side of the heart. The dilated ventricle becomes thinner and is puckered. The corresponding auricle, too, is dilated, and is thrust quite to the back part of the organ. The valvular apparatus, between the auricle and the ventricle, is altered in its connexions, and fails to close. In this extreme case the jugular veins pulsate like arteries,

owing to a portion of the blood which had been poured into the ventricle returning to the auricle, which now seems to act as a safety-valve.

There are other circumstances which may be deemed mechanical, which contribute to this disease in fat animals, viz., a diminished capacity of the chest, from the accumulation of fat in the belly preventing the descent of the skirt (from which accumulation the skirt itself is not free). There is also a considerable deposit of fat about the ribs, and this near to their junction with the back-bone, so that their mobility is lessened, thus rendering impossible the full and natural expansion of the lungs; in consequence of which the quantity of blood or the quantity of air they can contain must be diminished.

Now, it being necessary that the whole of the blood in this, the right side of the heart, should be forced through the lungs, notwithstanding their diminished capacity, it follows that greater power must be exerted by the right ventricle (in this case) to accomplish this. And hence, again, its thin walls suffer dilatation. This state causes a difficulty of breathing; there is a jerking in the process, when trifling exercise only is used. It may be noticed in the fat and petted dog, where probably the same disease exists. With disordered action long continued in any of the vital organs, or organs of nutrition, a frequent consequence is altered structure, and this altered structure once produced is permanent; hence the disease of "pouched heart" is said to be incurable.

Again, when the organs of nutrition suffer from diseased action, as the paunch and the other stomachs from over-feeding, or from food which is not natural to the animal, re-mastication is not performed; the function of the nerves which supply the stomachs, the heart, and the lungs, is impaired. Like galvanic wires, these nerves impress their influence; they write on the stomachs, the heart, and lungs alike. Then is present the fever of digestion. The blood is hindered in its passage through the lungs, so an excess of carbonic acid follows, and so is induced its *poisonous plethora*. Graziers admit the correctness of this when they say, "If you want to fatten an animal by highly-stimulating food, it must be increased by cautious degrees; because all such food is digested with great difficulty before the animal has been habituated to its use."

[To be continued.]

DIPLOMAS GRANTED.

The following are the names of the gentlemen who passed their examination before the Board of Examiners, and received Diplomas as Members of the Royal College of Veterinary Surgeons, on the 17th Dec. 1851:—

Thomas Greenhill, Ashford, Kent.

Joshua Turner, Sheffield.

PROCEEDINGS OF THE COUNCIL OF THE ROYAL
COLLEGE OF VETERINARY SURGEONS.

November 26, 1851.

Present,—The PRESIDENT (in the Chair), Prof. SPOONER, Prof. SIMONDS, Messrs. CHERRY, A. CHERRY, HENDERSON, STOCKLEY, TURNER, WILKINSON, WITHERS, and the SECRETARY.

THE minutes of the previous meeting were read and confirmed.

The President stated, that the first business to be transacted was the election of a successor to Mr. Bransby Cooper, as a medical member of the Board of Examiners, and notice had been given that Mr. Quain would be nominated to that office. In a matter of so much importance, he trusted there would be as much unanimity as possible in the Council.

In reply to a question from *Prof. Simonds*,

Mr. A. Cherry stated that he had communicated with Mr. Quain, to ascertain whether, if elected, he would be willing to undertake the duties of the office, and that that gentleman had expressed his readiness to do so. Mr. Quain was an eminent anatomist, and his name was well known to the medical profession. Moreover, his late colleague, Mr. Liston, a member of the Examining Board, had been in the habit of consulting him before the examinations took place.

Some observations on the subject were made by Prof. Simonds, Mr. Wilkinson, and Mr. Turner, when a ballot was taken, which resulted in the election (*nem. con.*) of Mr. Quain to the vacant office.

The announcement of his election to that gentleman by the Secretary elicited the following reply:—

“ 32, Cavendish Square,
“ 1 Dec., 1851.

“ Sir,—I beg leave to acknowledge the receipt of your letter, informing me that the Council of the Royal College of Veterinary Surgeons have elected me a Member of the Board of Examiners. I request, at the same time, that you will convey to the Council the expression of my sense of the honour they have conferred upon me, and the assurance that I shall endeavour to discharge the duties of the office in such a manner as to promote the intentions of the Council and the interests of the College.

“ I have the honour to be,

“ Sir,

“ Your obedient servant,

“ R. QUAIN.”

“ E. Gabriel, Esq.,
Secretary.”

Mr. A. Cherry presented to the Council a report of the proceedings of the Registration Committee. He stated that the Committee had held a number of meetings, and examined all the records that were available for their purpose. The Register had been prepared in a rough form, but was not quite ready for publication.

REPORT.

“The Registrar has to state for the information of the Council, that, assisted by the Committee, a list of the Members of the Royal College of Veterinary Surgeons has been prepared, which contains the names of the whole, or nearly the whole, of those who have studied at, and received diplomas from, the Royal Veterinary College, since its formation in 1791 to the year 1844. The names of those who have graduated at the Edinburgh College, from the years 1828 to 1840, have been made up from a return furnished by Professor Dick, up to the latter year. Application has been made for the names of those who graduated in the years 1841, 1842, and 1843, but which has not yet been replied to by Professor Dick, therefore this part of the list is consequently imperfect.

“The names of those who have graduated since the year 1844, the date of the Charter, have been taken from the books of the Royal College of Veterinary Surgeons: the only errors are the unavoidable ones of the residences of many of the members, in which it is impossible to be correct, from the nature of the subject.

“These three lists have been amalgamated and arranged alphabetically, distinguishing those by italics whose deaths are known; but there is reason to believe that many of those whose names stand as living members have ceased to be so, but, unless it has been ascertained on accredited authority, no death has been entered.

“The Registrar must acknowledge the services rendered by the Committee, the President, Professor Simonds, Professor Morton, and the Secretary, who have been most assiduous and unremitting in the discharge of a very laborious and difficult task: at the same time it is but right to acknowledge the very handsome manner in which the records of the Royal Veterinary College have been placed at the disposal of the Committee, not only affording thereby sources of information which could not otherwise have been obtained, but of correcting and verifying entries which were otherwise erroneous or doubtful, and it is believed that these records will enable the Committee to supply the *very few* omissions that are supposed to exist.

“Proof sheets of the form adopted by the Committee are laid on the table, but which have to undergo examination for, and

correction of, typographical errors, always a work of difficulty, but, from the peculiar nature of a register, one requiring unusual care and labour; which being done, the list will then be published ready for circulation.

“ARTHUR CHERRY,
“Registrar.”

Prof. Simonds mentioned the various sources whence the Committee had sought and obtained the information they required, and the difficulties they had met with in the compilation of the register, owing to the imperfect state of some of the records, and the mislaying of some of the minute books of the College. He believed however, that, after the labours of the Committee had been completed, there would not be six names omitted from the list during the sixty years that had elapsed since the examinations were commenced.

Mr. Turner drew attention to the fact that several persons were practising with their fathers' diplomas.

Prof. Simonds stated that others were practising with certificates of fellowship of the old Veterinary Medical Society, without having passed the Examining Board.

Mr. A. Cherry suggested that the price of the Register should be either two shillings and sixpence or one shilling, instead of one shilling and sixpence as heretofore.

Mr. Wilkinson advocated the lower charge, in order to extend the circulation of the document.

The President said the question ought not to be one of a remunerating profit; but every effort should be made to circulate the list as widely as possible, not only among veterinary surgeons, but more especially among their employers.

Mr. Henderson suggested that the Charter and Bye Laws should be bound with the Register.

Mr. J. Turner considered that, if these additions were made, the names of the officers of the College should be placed in the book. It was due to the President, the members of the Council, and the members of the Board, that a page should be devoted to them.

The Report of the Registration Committee was then unanimously received.

It was announced that the Register would be published and ready for circulation at the next quarterly meeting.

Messrs. J. Turner, Henderson, and the Secretary, having been named by the President as the Committee of Supervision, the proceedings terminated.

ALEX. HENDERSON.
JAMES TURNER.
E. GABRIEL.

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THOUGHTS ON BROKEN WIND.

By JOHN W. GLOAG, M.R.C.V.S., 11th Hussars.

[Continued from page 18.]

I SHALL now enter into a consideration of some of the CAUSES OF BROKEN WIND.—Among the principal of these I shall place bad forage. By this I mean, over-heated, musty hay. We all know how prone certain classes of horses, such as farmers' and millers' horses, are to this disease; and these animals are generally allowed an unlimited quantity of hay, which is often of the worst quality. It is stated by Nimrod, that there are very few cases of broken wind in France, compared with the numbers we have in England. I cannot vouch for this as a fact of my own knowledge; indeed, I am inclined to think that the numbers in France may have escaped the notice of that talented writer; an opinion I form upon no other ground than that of reading of the very numerous cases that have been examined after death by the various veterinary professors at the French schools, as detailed in their writings. We should have a difficulty, I expect, even in our own country, to find so many subjects. The reason, however, that Nimrod gives for this, is, that the hay is of bad quality, at least what we should consider to be so in England, viz. that it lays to dry in the open field until it is quite odourless, and that it is never heated in the rick. Added to this, they give more food of a sloppy nature to their horses than we do; and he is of opinion that hay heated in the rick may have something to do with the production of broken wind. I cannot reason on a fact which I do not know to be perfectly established; but I will only make one observation referring to this point—one, perhaps, that may be worth investigating—which is, that in India, where the horses

are fed on the dry grass pulled up by the roots, broken wind is comparatively unknown! Perhaps their out-of-door system of stabling may have something to do with it, though a still more likely reason would be, that their climate is equable. Changes of temperature exercise a most surprising effect in the production of bronchitis. In man, for instance, in England the disease is common; but in Canada and India it is very rare; and so it may be in France. But to return to the subject: what has bad hay, whether mow-burnt or not, to do with a disease supposed to be emphysema of the lungs? Although it seems difficult, at first, to answer, yet I think I can make it apparent. As to the fact, there is no denying it: it is an every-day observation. We know very well that, if a horse has the premonitory symptoms of broken wind, we can arrest or delay the attack by diminishing his ration of hay, and we are well aware that horses fed principally on dry hay are the subjects of broken wind. In the island of Jersey, where the hay is of very bad quality, the numbers of broken-winded horses are very great, and they suffer most from the second crop of hay. Bad hay, or a diet wholly of hay of any quality, seems to induce a disease of the mucous surfaces of the stomach and intestines,

Indigestion—and we are all aware of the intimate connexion there is between the lungs and stomach through the medium of the pneumo-gastric nerves, and *vice versâ* from the lungs to the stomach*. Diseased action once set up in the stomach is communicated to the lining membrane of the bronchi, producing inflammation of a very low asthenic character, first evidenced by a peculiar cough of a smothered description, as short as the animal can possibly make it; shewing plainly that it hurts him, and that he on that account avoids coughing as much as he can. It is quite distinct from the cough of catarrh. There is no sore throat, nor any of the usual catarrhal symptoms attending it. This state of things may last for a considerable time—does sometimes for years, indeed. The cough increases, or it comes on by spasmodic fits; and at last we find a difference in the state of the breathing, viz. that there is a perceptible heave at the flanks, and that the time occupied by the expiratory effort is greater than that in the inspiratory, which is evidently occasioned by the abdominal muscles being called into play to assist in the

* This idea of nervous influence originated with Dupuy, and is, in D'Arboval's estimation, the most accurate of any. Some anormal condition, but little known and hardly suspected even, of the pulmonary nerves, preceded by such circumstances as, in connexion either with the lungs, stomach, or other part, or through sympathy, are capable of altering the structure of these nerves, or of influencing their low functions. Both Dupuytrin and Dupuy have remarked symptoms resembling those of broken wind in cases of compression or section of the pneumo-gastric nerves.

act of expiration : in fact, the animal shews all the symptoms characterised by the term *broken wind*. How is this to be explained ? The last recognised symptom, namely the heaving in the flanks in expiration, is evidently only the last link in the chain of a disease situated elsewhere, and probably originating in the stomach. Now, if this animal were killed, we should most likely find an emphysematous state of lung (but not invariably so, as we might discover many other morbid lesions instead of it). Supposing we do find it, are we to infer that the emphysema is the cause which produced this difficulty in the act of expiration, or that the difficulty of expiration, and the great action of the abdominal muscles, have produced the emphysema ? This is a difficult matter to decide. If we consider emphysema as the *cause*, I think it can only be said to be so secondarily. In any case, I would say that diseased action of some kind, evidenced by the cough, &c., preceded the symptoms of heaving at the flank, or broken wind, for some considerable period, and that emphysema would therefore, in the first instance, be an effect of a certain diseased action. I think we can hardly imagine that an emphysematous state of lungs preceded the attack of indigestion and chronic cough. Let us speculate for a moment on the nature of this emphysema. How can it be brought about ? This, again, is most difficult to determine. May it possibly consist in a diseased condition of the blood under which air is issued into the substance of the lungs at various parts ? In favour of such a notion, we know that it is very difficult to empty these emphysematous sacs. Direct pressure of the finger will scarcely effect it ; and, once emptied, you can never fill them to the same extent by forcing air into the lungs ; indeed, we shall scarcely succeed perhaps in getting any air at all into them, tending to shew that they are not in absolute connexion with the air-cells. In what other way may the emphysema be produced ? We must conjecture again. Supposing the bronchi to be in a low state of inflammation, as evidenced by the peculiar cough, this would be attended at first with tumescence of membrane and extra secretion of mucus. The violence of the cough, or the absolute difficulty of expiration, owing to the inflamed and thickened state of the membranes (if we suppose the emphysema to precede the difficulty of breathing), forces the air through the passages, which are smaller in diameter than in health, and obstructed with mucus and weakened by disease ; and, in the resistance the air meets with, the delicate walls of the air-cells may burst, and allow the air to escape into the parenchyma : this is a slow and gradual process, and the difficulty of breathing comes on imperceptibly. The same cause being frequently repeated will increase the mischief. The

air having got outside its proper contractile conduit, cannot readily return, but remains there : this happens, perhaps, in many places, until a considerable portion of lung may be in this state ; and as the portions so affected have lost their natural condition of compressibility and capability of oxygenizing the blood, and withal are more porous and voluminous, the sounder parts are called on to do more than in health ; and, the diseased portions having caused the lungs to be considerably increased in volume, the natural means to affect the act of expiration fails in accomplishing it, and, of necessity, the abdominal muscles are brought in as powerful auxiliaries. This is the view I take of it, so that I consider emphysema, when it exists, to be an effect of the original disease, and to become a cause, secondarily, of the difficulty of expiration. After all the symptoms of broken wind are fully established, the same cause would still be in operation, viz. the cough, to break down the air-cells, in addition to the powerful efforts of the abdominal muscles, which, although of necessity called into play in expiration, yet seem also to be affected spasmodically. An exactly similar action takes place with respect to cough producing emphysema in the lungs of children, as in whooping cough ; and sometimes, in people who play much upon wind instruments, a similar appearance is manifested.

Another way in which broken wind has been attempted to be accounted for is due to our worthy Professor Sewell. He considers that an atrophied condition of the transverse muscle of the trachea, and the enveloping and lining membranes of the bronchi, has ensued, either as an effect of chronic bronchitis or the product of some peculiar sympathetic diseased action, arising probably out of an affection of the stomach ; and as these tubes, which were mainly instrumental in expiration, have lost their natural contractile power, the abdominal muscles were naturally called into play to assist the expiratory effort, thus producing the appearance called broken wind ; and that, therefore, we might or might not have emphysema as an effect. The probability would be, that, in the weakened state of the walls of the air-cells, such an effect would take place : at the same time, broken wind might exist without it. In support of this, we know that in broken wind the lungs are usually paler and specifically lighter than in health, and that the lining membrane of the trachea and of the bronchi is likewise extremely pale. The theory deserves our careful consideration, as coming from so high a quarter, and as appearing to carry much weight with it : to say the least of it, it is possible it may be not an infrequent mode in which broken wind is produced.

Since writing the last remarks, a number of the London

Medical Gazette for Nov. 21 has come accidentally into my hands; and in it I find a clinical lecture on cases of bronchitis and emphysema by R. B. Todd, M.D. F.R.S., Physician to King's College Hospital, which bears so much on my entire subject, that I would, had I room, gladly insert the whole of it. I extract what follows.

“Such are the changes and physical signs which we find in the early attacks of bronchitis. But when there have been repeated attacks of this disease—and especially when these acute attacks have supervened upon a continuous chronic bronchitic state (if I may be allowed to coin such an adjective), the lungs undergo very serious changes which interfere very greatly with their functional integrity and activity. These changes are of various kinds: sometimes one or more bronchial tubes are obliterated (as first, I believe, pointed out by Dr. Stokes), and the pulmonary lobule or lobules to which they lead collapse from the absence of their usual distending medium, the air, and become more or less wasted. The adjacent tubes and their corresponding air-cells dilate to receive more air, just as the tubes of one lung would if the other were compressed by fluid, but probably to a much greater degree; and thus we may have in the same lung, at parts, a collapse and an atrophy of portions of the lung, and at other points expansion and permanent dilatation of the air-tubes and air-cells.

“But there are other and more important causes in operation to produce the dilatation of the air-cells and tubes; these are, the disturbed state of breathing caused by the bronchial irritation, and more especially the difficulty of expiration and the mischief done to the tissues of the bronchial apparatus by the repeated attacks of inflammation. Thus the bronchial irritation gives rise to a more or less asthmatic state, in which the act of inspiration is performed with considerable force, and that in a state of lung which is ill suited to resist the pressure of the in-rushing air. The muscular fibres of the bronchial tubes must, by the repeated attacks of inflammation of the mucous membrane, be more or less weakened. Now, the most probable office of these fibres is to regulate the admission of air into the lungs, and thereby to protect its delicate tissues against undue pressure, just as the muscular fibres of the arteries regulate the flow of blood into them, and to a certain extent antagonise the heart's force. Hence, in an enfeebled state of this muscular apparatus, the bronchial tubes will yield under the force of the inspired air, and become more or less dilated; and an undue quantity of air will rush in most abundantly at those parts where the muscles are weakest, and therefore afford least resistance.

“Again; when the air has accumulated in the lung, it is with difficulty expelled. There are direct obstacles to its outward passage in the altered condition of the mucous membrane of the tubes, and in the accumulation of secretion in them. Moreover, the expelling force is, in great part, due to the re-action of the elastic tissue, which enters largely into the formation of the bronchial tubes, and which invests the lobules of the lung. But the undue stretching to which this tissue has been subjected, not only from the forced inspiration, but from the detention of the air within the lungs, and the accumulation of mucus in the tubes, must, as the disease advances, more or less impair its elastic power, and therefore weaken the force which takes the most direct and the largest share in the process of expiration. Thus, the longer the duration of the disease, and the more frequent the attacks, the more serious will be the evils which follow in its train.

“You may readily gather from what I have said, what are the alterations in the lung which chronic bronchitis tends to produce. They are, first, the immediate changes; and, secondly, the remote ones. The immediate changes are those which affect the mucous membrane and muscular fibres of the bronchial tubes, as well as the tubes themselves; such as inflammation, thickening, altered secretions, perhaps even ulceration, and also more or less dilatation of the tubes. The remote changes are, a still further dilatation of the tubes—a dilatation of the air-cells; and when that dilatation goes beyond a certain point, a stretching, and even a rupture, of many of the bands of elastic tissue which are found in the lobules. This stretching of the bronchial passages and cells gives rise to a corresponding change in the air-cells, which exercises a very marked influence upon the capillary vessels of the lung, which, so far as I know, was first pointed out by Mr. Rainey, of St. Thomas’s Hospital. The expansion of the air-cells causes an extension of the meshes of the capillary net-work distributed upon and within them; and the rupture of many of the intersecting bands of fibrous tissue causes obliteration of their bloodvessels. Thus, the capillary system of the lung becomes diminished in its capacity; and thus is explained the fact, long known, that emphysematous lungs are apt to be pale, and to look as if they contained but little blood.

“Now, the state to which the lung is thus brought by a long continuance of chronic bronchitis, is that which we call *emphysema*, in which there is more or less dilatation of a greater or less number of air-cells, and a consequent diminution in the area of the capillary system belonging to them.”

The *diaphragm* is most frequently found pale and attenuated, and sometimes ruptured. In cases of long standing, this muscle

is always found pale and thin, and it is not difficult to imagine why. We will suppose the lungs to be in an emphysematous condition. Whatever air escapes out of the diseased portion is very small in quantity, and, no doubt, a great deal is absolutely imprisoned. The lungs are gorged with this air, and cannot get rid of it; and this leaves a much smaller portion of healthy lung to do the work of respiration. The lungs are enlarged to such an extent that they keep the sides distended, as we may see by the apparently increased size of the chest, and the prominence of the ribs and the spaces between them, through the absorption of the intercostals, which are in a manner paralyzed. Added to all this, the enlarged and diseased lungs press backwards upon the diaphragm (and very likely displace the heart), and so interfere greatly with its motions in respiration. In inspiration, the diaphragm is obliged to contract to the uttermost, to allow of sufficient air getting into the lungs; and in the act of expiration, it is violently pressed upon by the contents of the abdomen, forced against it by the abdominal muscles. The sudden contraction and the great recession it has to make backwards, to make room for the lungs again in inspiration, becomes evident to us by the sudden flop and fall of the belly, in consequence of the action of the abdomen supervening on that of the diaphragm. No wonder this muscle becomes completely worn out and exhausted: indeed, all muscular structures seem to partake of this debility, witness the sphincter ani, &c.

Chronic Bronchitis, however produced, I look upon to be the fertile source of broken wind; whether we consider it to arise during a turgescient state of the membrane, when mucus may obstruct the bronchial passages, and the cough give rise to rupture of the air-cells by the resistance the air meets with in its passage through the narrowed or obstructed tubes*, or as the result of a diseased condition of the blood and the bronchial membranes (a kind of chronic bronchitis), when the blood may issue air into the substance of the lungs; or, lastly, whether we take Professor Sewell's opinion, and regard it as a state of atrophy of the investing muscular structure and lining membrane of the bronchi.

In support of chronic bronchitis being the most fertile cause of broken wind, I would instance how often we find a certain description of roasters, viz. *wheezers*, or thick-winded horses (which is only another name for chronic bronchitis), eventually become so; whilst instances of broken wind supervening on

* This result has been noticed by the celebrated Laennec, and by the French veterinarians Godine, Rodet, and Delafond; and it is possible that air might get admission, and create an interlobular emphysema, through the ulceration and perforation of the bronchial membrane.

acute inflammatory attacks of lungs are extremely rare, even unknown. We are also aware that most usually there is a peculiar wheezing to be heard in the chest of broken winded horses, as if the air were obstructed by mucus, which is really the case. Where this wheezing could be heard, I would infer that the disease had supervened on bronchitis; but if it were absent, that it depended on some other organic change, which embarrassed the circulation or respiration. We also know that the disease is heralded for a long time by the peculiar bronchitic cough, and accompanied or preceded usually by symptoms of indigestion; although this symptom is not constant, for sometimes the appearances of indigestion succeed the attacks of broken wind; the lungs and stomach being mutually dependent on each other. How common is it for a crib-biter to become broken winded, and what is this disease but indigestion?

Cases of broken wind are recorded as coming on suddenly by EXERCISE ON A FULL STOMACH; the pression on the lungs during such an act, it is supposed, produces emphysema. If these cases had been carefully noticed, I have no doubt they had been in a state of preparation for the event for some time previous; else, I cannot conceive any exercise that could produce such morbid lesions as we find in the lungs of broken winded horses without causing rupture and hæmorrhage of the lungs. Although we have not cases of pure broken wind following on acute attacks of the air-passages, yet occasionally, during such attacks, we have cases simulating the symptoms in a most remarkable manner. Practitioners will call to mind many of them. I had one lately, under the form of influenza, of a most violent character (in fact, acute bronchitis), and for two days I could not decide the point satisfactorily, in my own mind, whether it was not a case of broken wind. The reader who wishes to refer to the case will find it in the November number of THE VETERINARIAN for 1851, under the head "Influenza." However, this animal recovered from all that he had resembling *broken wind*, perfectly, as these kind of cases usually do, though he afterwards died from laminitis. On examination of him, I found the usual effects of acute bronchitis in the thickened inflamed membrane, &c. &c.; but of the diaphragm the anterior surface was studded all over with spots of ecchymosis, and, as far as I could make out, thus far was the organ implicated in the symptoms simulating broken wind, though the rationale of the case I do not profess to understand.

May the *inhalation of noxious gases* create broken wind? I never knew a case of the kind. I have heard of horses having been confined very closely together, without proper ventilation, being affected with symptoms something similar to broken

wind; though this, I expect, was a spasmodic nervous attack caused by the animal being nearly in a state of asphyxia. But these cases recovered: in fact, I only consider them to have been affected with symptoms natural to horses nearly suffocated. A long continued inhalation of noxious gases might, perhaps, cause chronic bronchitis, and so pave the way to broken wind. Rather a curious point is connected with this; and as any thing, however slight, is worth notice, I shall mention it. There is a peculiar asthma in man called the *hay asthma*, and people so affected cannot bear the smell of new hay, since it immediately produces distressing attacks of dyspnœa. Our late sovereign, William IV, was an instance of this, and he had always, in consequence, to reside at Brighton during the hay season.

Turning old horses that have been long stabled to grass or straw-yard is a very fruitful source of broken wind; and it is difficult to say whether this arises from the comparatively innutritious quality of the grass, which may produce some disordered state of stomach and sympathetically affect the lungs, or whether (as the mucous membranes are only a continuation of the skin) the sudden exposure to cold simply produces an affection of the air-passages, ending in broken wind. It is most probable, that animals which on return from grass have thus been said to have gone broken-winded, had been affected with chronic cough for some time previous to their being turned out.

Enlargement of the air-cells or dilatation of the bronchial tubes may produce broken wind, on the same principle as emphysema; because the aperture for the expulsion of air retains its original size, or is perhaps smaller, and the parts which receive and contain the air are increased in size: hence the difficulty in expiration. But when the bronchial tubes or air-cells are merely dilated, it is only the first step towards broken wind, the difficulty of expiration being at such a time not so great, perhaps, as to make it perceptible unless closely looked for.

How far may asthma in man and broken wind in horses be considered analogous diseases? There are some forms of asthma, especially such as seem to arise from similar causes to broken wind, which do bear a close resemblance. The asthma which commences in chronic bronchitis, and congestive asthma, are of this kind; but still, in some respects they differ from broken wind. We must not forget, that in man attacks of asthma are brought on, or increased, by emotions of the mind and affections of the senses; and that it is in many cases with him purely a nervous disease, no trace of morbid lesion being found in the chest after death. And again; that there is no case of asthma in man that is not greatly complicated with nervous excitement. Now, in the broken-winded horse, I con-

sider the act of expiration certainly partly spasmodical, although the animal is free from those passions and emotions of the mind which produce attacks of dyspnœa in man. The broken-winded horse is affected, like the asthmatic man, by sudden changes of temperature, or states of atmosphere, wherein the quantity of oxygen in a given space of air is more or less altered; and this is the all-important object to the suffering animal, who is straining himself to death to pump as much air into his lungs as will oxygenate the blood. Owing to these circumstances we cannot draw a perfect line of resemblance between broken wind and asthma.

Is broken wind hereditary? I think not, excepting so far as breeding from an animal of peculiar conformation may produce a tendency to the disease. There are two kinds of horses which seem most subject to it:—One is an animal rather high on his legs, with his elbows and arms close together, very narrow between the shoulders, and withal flat-sided and badly ribbed up. This animal has no capacity of chest and room for his lungs to play, from want of the requisite roundness of make; the other animal has a round chest, but it has no depth, and the consequence is, his belly seems to swell out, and becomes pendulous—what is commonly termed “pot-bellied;” and this is the worst subject of the two for this complaint, although a better horse than the first. This is a chest that cannot expand laterally, since it is circular already, and there is no depth with it. This is also the make to give all the disposition to be a gross feeder, and the lungs may become too large for the chest. Such a horse is more likely to go broken winded than the first-described animal, which, from his make, may happen, very likely, to be a moderate feeder, and perhaps good-for-nothing animal.

MR. REEVES' REPLY TO “AMICUS'” QUERY ON THE EXPANSION OF THE FOOT.

To the Editor of “The Veterinarian.”

Sir,—IN your Number of last month, I observe a paragraph from a correspondent styling himself “Amicus,” who wishes “to obtain some light on the subject of expansion,” and requests the Editor's permission to “ask Mr. Reeve a few questions:” stating that “he” (Mr. Reeve) “has written that his solution will ‘give a very fair approximate to the actual degree of ex-

pansion;" and then proceeds to inquire, "If so, as the upper surface of the sole is an ellipsis with a triangular space in it, what would be the results of similar measurement at different parts of it?"

The first questions which were suggested to my mind by the perusal of the above, were, Who is Amicus, that has so suddenly sprung up after a lapse of two years?

Is he professional or non-professional, and what are the objects of his queries? Does he quarrel with my calculations, and wish to enter upon a discussion thereon simply for amusement? Or, is it really a veterinary surgeon taking this extraordinarily short cut to the temple of knowledge? Should it be the latter, although I cannot but feel flattered by the application to myself as an authority, still an innate modesty bids me decline the compliment and refer the gentleman to one more deserving, one who has often been my instructress, and who, I am sure, will afford every information, provided it be sought with proper humility, patience and perseverance—Dame Nature.

Is Amicus ignorant of the subject of expansion? I presume there are horses' legs and feet in his county; and as to "light," let him take the light of science and the spirit of investigation.

I am altogether puzzled to comprehend him, and know not whether to consider him the Amicus *Certus* of scholastic memory, or an individual who ought, more properly, to have written W, A, G, to his patronymic. He cannot, surely, be the Simon Pure who could thus propose a difficult question, involving the admeasurement of conic sections, without being aware of its intricacy; for to answer his questions would be nothing less than to explain what changes would take place in the ratio between the chords and versed sines of all the sections that could be made of an elliptical dome, by depressing the crown of its arch. I must, however, be excused if I hint that such questions are somewhat inappropriate to THE VETERINARIAN, and would better suit the pages of a mathematical periodical, as they do not carry with them evidences either of their utility or advancement of the veterinary science. I beg to remind "Amicus" that the subject of my paper in THE VETERINARIAN of April 1850, was not that of the *admeasurement* of the horse's foot, but of the question of its expansion,—two questions entirely different. My paper communicated the demonstration of certain phenomena attending the horse's foot when in action, and, amongst others, that of expansion; and having, firstly, practically demonstrated the descent of the sole by direct experiment, I pointed out the fact that expansion necessarily became a corollary to that demonstration. I then proceeded to shew how this could be proved from certain assumed data having reference

to a transverse section of the hoof, in which the edge of the sole was considered the hypotenuse of a rectangle there described. Therefore, if the sole descended, the quarters must expand, *quod erat demonstrandum*. In the argument, it was unnecessary to notice the curve of the sole, for it was manifest that, if the base was increased by depressing the hypotenuse, much more would it have been increased by taking into calculation the straightening of the curve of the sole also.

If I remember rightly, there was a slight error of the compositor, which was corrected on the cover of the succeeding number for May, which "Amicus" might have discovered had he been very intent upon the subject; but I can candidly confess that, to myself, the intentions of "Amicus" savor more of the principles and practice of posing than of physiology. Nevertheless, by referring to the figure given in the number of THE VETERINARIAN for April 1850, and putting h for the hypotenuse, b for the base, and p for the perpendicular, the following formula will give, as I there observed, "a very fair approximate to the actual degree of expansion."

$$\sqrt{\{h^2 - (p - 1)^2\}} \times 2$$

In conclusion, I beg to inform "Amicus" that, although I must positively decline to notice any further communications which relate simply to measurement of this or that natural object, yet should he have made researches into the interesting subject of expansion, and intend to lay before the profession any valuable information relative thereto, I shall feel great pleasure in perusing the same, and according my individual thanks for the benefits derived from the study of his lucubrations.

I am, Sir,

Your most obedient servant,

W. G. REEVE, M.R.C.V.S.

1, Elizabeth-street, Eaton-square,
7th Jan. 1852.

P.S.—I trust, Sir, that when the interesting experiments of "Amicus" are given to us in his next communication, we shall also be favoured with his name.

REMARKS UPON ANTICIPATED ADVANCEMENT OF KNOWLEDGE CONCERNING THE FOOT OF THE HORSE, AND ITS DISEASES.

By JAMES TURNER, M.R.C.V.S., Regent-street.

My dear Mr. Editor,—IF an old veterinarian like myself, of forty years' hard practice, and therefore, as a matter of course, about quitting and making way for a rising branch, can hail with thorough delight the announcement of a comprehensive work under the title of "*Treatise on the Organization of the Foot of the Horse, comprising the Study of the Structure, Functions and Diseases of that Organ, by M. Bouley,*" how must the young and ardent practitioner be charmed by such prospect of enlightenment!

From the reviews recently of the work in THE VETERINARIAN by your own able pen, we are told that the structural section is composed of *minute* anatomy, the detail in length unprecedented.

Now, should it happily turn out that this talented author and eminent French professor prosecutes his work in the same comprehensive spirit to the very end of the chapter, so that *pathological* minutiae be found to vie with anatomical minuteness, then will the writer have conferred the greatest conceivable professional boon; because, according to the existing state of veterinary literature in Europe, this is now the grand desideratum. For such an elaborate work, extensively illustrated, as a foundation upon a broad basis for future study, we shall owe to our French brethren a large debt.

As a branch of science, how pre-eminently worthy is the foot of the horse to the devotion of talents of first-rate intellect in the elucidation of its mysteries, and the indication of sure guides for its conservation! As a specimen of animal mechanics, surely it is Nature's masterpiece. Considering the very limited compass of the organ, there is nothing so strong, at the same time so delicate and sensitive. It can sustain the whole superincumbent weight of the animal to which it is appended, together with that of his rider, and alight upon the earth's surface, moving at the velocity of a mile a minute, without injury to the internal organization. To disclose the economy and mechanism of this protective spring is the business of science.

The generally received opinion in this country has been, the alternate expansion and contraction of the base of the foot; until of late years the London lecturers, together with a few army veterinary surgeons, have assailed this long-established theory, and denied the expansibility of the ground surface of the foot.

Now, although these are all gentlemen of first-rate eminence in the profession, I cannot refrain from remarking in this place, that the series of experiments which they instituted, and published in *THE VETERINARIAN* of last year, in support of their schism, were, in my humble opinion, wholly inadequate to the purpose intended. Rude or clumsy experiments are certainly better than no experiments at all; but the dead foot confined in a vice, and the column of bones from the fetlock forced down by sledge hammer pressure, cannot be regarded as a *test* upon a subject which involves an investigation of the greatest nicety. There is one great physiological fact, first made manifest by the late Professor Coleman, which will surely last out all time, and therefore must ever be respected in all theories upon the functions of the foot, viz. that the dove-tailed bond of union between the anterior and lateral surfaces of the coffin-bone and the crust of the hoof is alone competent to sustain the whole superincumbent weight of the animal, without any assistance whatever from the base of the foot.

The ingenious Professor, in the early career of his Professorship at the Veterinary College, availed himself of the following experiment:—

One of his patients in the Institution was a mare with inveterate *canker* of both fore feet; the entire base of the foot was destroyed by disease, being devoid of sole, frog, and bars; but the crust and laminæ remained sound. It happened that this said animal was addicted to kicking with both hind legs, when standing in her stall.

One day, assembling his pupils during her vagaries, he gave them ocular demonstration of the soundness of his theory; “for,” said he, “had it been otherwise, they must have seen her coffin-bones protrude through the hoofs to the ground.”

The public at large are more interested in this question, directly and indirectly, than they dream of.

Horse riding is more in vogue than ever by the fairest creatures of the creation, the ladies of Great Britain, as recommended by the medical faculty, not only for the preservation of health, but in the young as conducive to physical development, expansion of the chest, and bloom to the countenance. But in the artificial state of our roads this is not carried out without some personal risk to the fair equestrian. I allude to the *security of tread of the steed's foot* by way of diminishing the liabilities to falls from stumbling. I embrace this opportunity of advising them, whether they are sojourning in London or in the provinces, to encourage and patronise the certificated veterinary practitioner, whomsoever he may be, that may be found on inquiry to have especially de-

voted his talents and leisure to the study of the foot of the horse and of scientific shoeing. Such a reputation will deservedly advance any young veterinarian.

Now, Mr. Editor, in closing this paper, I must still further trespass on your valuable pages for the purpose of tendering you my heartfelt thanks, in conjunction, as I suppose, with all the elder members of the veterinary profession throughout the United Kingdom, for your energetic movement in rushing to the rescue of a name from undeserved exclusion by the French author, which is unquestionably the earliest and most brilliant in the annals of veterinary history of this empire.

EDWARD COLEMAN'S NAME, WHEN AT THE HEIGHT OF HIS PRACTICAL CAREER, PASSED CURRENT THROUGHOUT THE LENGTH AND BREADTH OF THE LAND AS IDENTIFIED WITH THE FOOT OF THE HORSE, FROM THE PRINCE IN THE PALACE TO THE POSTILLION ON THE ROAD!

THE PREFERABLE MODE OF APPLYING GUTTA PERCHA.

By THOMAS MARSHALL, Esq., Cresswell Park, Blackheath.

THE manner in which the gutta percha sole was used, as described by you in one of your late numbers of THE VETERINARIAN, is not so explicit but that it may in some instances fail for want of being properly adjusted, in the first instance, to the foot of the horse. As I have been accustomed to use gutta percha soles for my horse for more than two years with complete success, I can form a pretty good opinion of their utility: I therefore herewith transmit to you an account of the method I follow. In the first place, the hoof of the horse is immersed in very hot water for five or six minutes, until quite hot, and is afterwards wiped quite dry. Then take the solution (which must first be made warm by being melted to the substance of glue), and, with your warm finger, rub a thick coating of the same *well* over the whole surface of the bottom of the hoof, underneath the shoe, in the manner you would paste. When ready to receive the gutta percha, the piece intended to be applied must be warmed throughout, until it is just soft enough to take the required shape, having been cut nearly to the size at first. This may be done by allowing it to remain in boiling water for a few minutes, or by placing it upon a hot plate, steam heat, or upon a smooth board before the fire. If you soften the sole in boiling water (which is the

quickest mode), wipe the surface well with a warm cloth, so as to make it quite dry before you place it upon the hoof, which must be done with as little delay as possible, gradually pressing it down closely, and taking care that no *air* be allowed to remain underneath. If the sole be not laid down in the right position, the cement is so adhesive that it is not easily shifted. The softened sole can be afterwards blocked more completely to the form of the foot by gently rubbing a small, flat, thin, hot iron over the surface. The gutta percha must be cut angularly through its middle, so as to leave the frog uncovered.

N.B.—The gutta percha covering requires renewing every time the horse is shod.

PERITONEAL AND VISCERAL DISEASE, SEQUELS OF PARTURITION.

By JOHN YOUNGHUSBAND, V.S., Greystoke.

“No wheedler loves.”

January 1, 1852.

Sir,—THIS being the commencement of a new year, from the respect in which I hold you and THE VETERINARIAN, as also from a desire to contribute a mite, I am induced to send you the following imperfect account of a case, believing that it is not one of common occurrence.

The subject was an aged cart mare, belonging to a Mr. Monkhouse, of Mosedale, in my neighbourhood, which I attended in May 1851 for a case of difficult parturition, followed by severe after-pains, and a partial protrusion of the uterus. This, with some difficulty, was reduced, and the excitement caused thereby combatted with sedatives. I was given to understand that ever since that time, at uncertain intervals, she has had several severe attacks resembling colic; although she did not lie down and rise again in so hurried a manner as horses in general do when afflicted with that complaint. But it was not until December following that I was consulted, and not even then requested to visit her; so I sent her two doses of a mixture consisting of *spt. nit. æther.*, *tr. opii*, *æther. sulphuric*, et *tr. zingiberis*, one-half to be given immediately in a little warm water; and, if relief was not obtained in a short time, to take the other half. Shortly after receiving the second dose the mare became quite easy, i. e., to all appearance.

Dec. 28th.—She was again taken ill. The mixture called for and given, but without effect.

29th.—The mare not getting better, I was sent for. On my arrival I found the mare presenting the following symptoms:—Lying down and stretched out at full length, but not appearing to suffer very acute pain, though she groaned and looked wistfully at her sides. After hearing a short history of her since the time of foaling, I was induced to give it as my opinion that there was most likely some abdominal derangement, or perhaps a diseased uterus, arising from the effects of the late parturition. Acting upon this opinion, after causing the mare to rise, I proceeded to make an examination *per rectum*. But, from the strong spasmodic action of the bowel, it was not without great difficulty that I could introduce my hand and arm, though well prepared for the purpose; yet, after a little manuduction I succeeded, but could not detect any thing to satisfy my curiosity, except at the extremity of my hand, where I thought I could detect a stricture. I pressed steadily on, and tried to pass my hand, but was foiled in the attempt. In the withdrawal of my hand I encountered the same difficulty I had met with in introducing it, and it required a little tact to withdraw it without the intestine following. I then proceeded to examine her otherwise. Beginning at the pulse, of which I can give you no perfect account, not being able to count it at the jaw, yet the artery appeared hard and corded. The visible mucous membranes were of a livid colour; ears and legs cold, but not deathly cold; respiration laborious, but not hurried; nostrils expanded; mouth hot and dry; and upon placing my ear to the side I could detect a diminished murmur, which I cannot describe. All the time this was transacting the mare every now and then turned her head, and anxiously gazed at her sides, as if to say, “there lies my complaint, ease me if you can.” After this I waited a while to see if I could gain any more information by which to judge of her complaint, being satisfied that it was no ordinary case. A short time after the mare put herself in a position to urinate, which, after a few attempts to do, she effected by passing a little thick high coloured urine that appeared to give her pain; after this she stood wide and straddling, and at short intervals passed more high-coloured urine. From these symptoms, and a few questions put to the owner, I added to my former opinion, that, whatever other disease existed, there would be found diseased structure, either of the kidneys or bladder, in some form or other; and that ere long my opinion would be tested, as her dissolution was fast approaching. Having reviewed the symptoms, and considered the present state of the mare, my advice was that nothing more should be done; but

the owner wished me to give her a further trial, remarking, "she had had many a bad bout, and this might not be the last."

So I left her in the manner stated. Sent her afterwards some medicine compounded for the purpose as well as my judgment would admit, not believing in the least it would be of any avail; and very soon my belief was verified, since, upon raising the mare's head to administer the medicine, she staggered back, fell, and died without a struggle. Next day the owner had the kindness to send for me to make a post-mortem; but, from the high state of decomposition the bowels and other viscera had run into, it was not without the greatest offence to the olfactories that I could maintain a position to enable me to give the following imperfect account.

On cutting open the abdomen, a large quantity of water escaped, amounting to several quarts; and on proceeding further, the most extensive disease was seen to have taken place both in the mesentery and bowels, they being black, rotten, and easily torn. Beginning at the rectum, and passing on, perhaps, to where my hand had reached, there was found a tumour the size of a large orange, growing around the bowel. As to its nature, whether scirrhus or cartilaginous, I do not mean to give an opinion; but its interior contained a dirty yellow looking matter, appearing to come from what I took to be small ulcers or abscesses: in cutting it through it grated under the knife. A little further on was another tumour, similar in appearance, but larger. The caliber of the bowel at these places, as well as the space included betwixt them, was much straitened. I did not attempt their removal, the effluvia being so strong that it was any thing but agreeable to make the examination. On pursuing the course of the alimentary canal throughout, nothing further was observed worthy of notice. The uterus appeared in its normal state. But, in my hurry I unfortunately forgot the bladder. I next proceeded to examine the kidneys. Having removed the left kidney first, it was soon seen to be morbidly affected, and attached to its posterior end was a bladder or cyst (if so I may call it), upon opening which there escaped nearly half a pint of thin pale straw-coloured fluid; but, suffering as I was at the time from the effects of the disagreeable stench, I am not able to say whether it emitted any peculiar odour or not. The whole gland shewed a high degree of inflammation.

The right kidney, when removed, appeared free from disease, but small. The lungs were highly congested, full of black blood, and easily torn. The heart had suffered also, was larger than usual, and contained much dark-coloured blood. The liver and spleen appeared normal.

The only remark I have to make is simply this. At the

time of foaling the mare was found sitting upon her haunches, fixed in a corner of her box, unable to rise, until assistance was lent her. Could the disease in question have arisen from injury received in the false position the mare was found in? Since, before that time she had always enjoyed good health.

All I can say about the case is this, that I am sorry I cannot give you a more perfect account.

Wishing you a happy new year,
I remain, ever yours.

Mr. W. Percivall.

PRIZE ESSAY ON THE DESCRIPTIVE ANATOMY OF THE ABDOMINAL VISCERA OF THE HORSE.

By MR. JOHN GAMGEE.

[Read before the Members of the Veterinary Medical Association.]

(Continued from page 31.)

Genito Urinary Apparatus.

HAVING already described the intra-abdominal portion of the alimentary canal, and its accessories, I proceed to the consideration of that portion of the genito-urinary apparatus as contained within the abdomen, in the widest acceptation of the latter term. By this I mean the kidneys, and with them, for anatomical convenience, I classify the supra-renal capsules, then the ureters, bladder, membranous portion of the urethra, vasa deferentia, vesiculæ seminales, prostate and Cowper's glands, with which I shall conclude.

Kidneys.

The kidneys are a pair of glands, whose function it is to secrete urine. They are distinguished as right and left, being both situated in the lumbar region; but so far as concerns their topographical anatomy, notwithstanding their similarity in position, they need separate notice.

The right kidney is more anteriorly situated than the left, coming in contact with the posterior part of the right lobe of the liver, to which it is attached. It is also fixed to the abdominal parietes by peritoneum, and to the spine by blood-vessels.

Its shape is that of a bent ovoid, being more symmetrical than the left. It has two surfaces and two borders. The

superior surface is flattened, and comes in contact with the right phrenic crus and psoas muscles. Its inferior surface is more convex, and related to the duodenum and transverse colon. Its outer border is convex and smooth, and in contact with the liver anteriorly. Its inner border is concave and notched, constituting the lobes of the organ, where its vessels and ducts enter and issue. It is here related to the supra renal capsule, and more especially to the vena cava.

The left kidney is situated further back in the lumbar region than the right, being attached to it, as well as to the colon and spleen, by peritoneum.

Its shape is strictly that of an irregularly bent ovoid, being longer than the right but not so broad. Its superior surface is flattened, and comes in contact with the left crus of the diaphragm and psoas muscles. Its inferior surface is convex, and in contact with the transverse and single portions of the colon. The outer convex margin of the left kidney is oblong, and anteriorly related to the spleen. Its inner border is concave and notched, like the right, being in contact with the left supra-renal body and aorta.

Though differing in these marked general characters the kidneys resemble each other in several equally obvious points of their general anatomy. Both kidneys have a peritoneal and an albugineous coat, both have an excretory duct, vessels and nerves, with a structure also equal in the two, constituting the bulk of the organ. Externally to the peritoneal tunic is a more or less thick stratum of fat, which is more abundant in old than in young animals, when in a state of obesity.

The peritoneal covering of the kidneys is incomplete, especially that of the right one, whose inferior surface and convex border are the only parts coated by it. The left kidney is also covered on its superior surface to a considerable extent, sometimes more and sometimes less. The attachments which each organ contracts through the medium of this serous investment have already been described.

The albugineous tunic is fibrous, and partly sub-serous. It forms a distinct capsule attached to the substance of the organ by fibrous prolongations, which are in some parts arranged in pits and depressions, so as to mark out divisions on the surface of the kidney. In addition to this, the albugineous coat surrounds the vessels and ureter at the hilus, and enters the substance of the organ.

On cutting the kidney horizontally from the convex to the concave border, there are three different parts brought into view, to be taken into consideration. Firstly, a dark contour of about half an inch or more in thickness, being generally less at the

extreme ends of the kidney than at its middle, which completely encircles the central part of the gland, and is termed the cortical structure, from its being most external. This part of the kidney has somewhat a granular aspect, and when the vessels are full of blood or injection they appear more or less arborescent, and clustered at innumerable minute but visible spots, to form the Malpighian tufts. Next to this is a lighter coloured material, rather ash-coloured, but having a reddish hue, termed the medullary substance. This term is not given to it from the fact that it is medullary in consistence, but used in the metaphorical sense of being internally or centrally situated.

Approaching still nearer to the concave border of the kidney is a funnel-shaped cavity with its apex towards the hilus and the base bounded by the medullary substance, which is the pelvis. The apex is tubular, and continuous with the ureter, of which the cavity is but an expansion.

The walls of the cavity are lined by a mucous membrane which is loosely applied to the medullary substance and thrown into folds, taking a radiated direction from the mouth of the ureter. Opposite the apex of the pelvis, the membrane is adherent to a prominent border of the medullary substance, concave from before backwards, but convex from above downwards, and is pierced by foramina, into which the lining membrane of the pelvis extends, so as to form the uriniferous tubes. On dissecting carefully away the mucous membranes of the pelvis we reach to the fibrous tunic, which is not continuous on the medullary ridge, but merely attached to its sides, so as to increase the length of the boundaries of the cavity.

The ureter arising from this dilatation is continuous outwards towards the spine, and then backwards, being related superiorly, as it issues from the hilus, with the renal vein, and then crossing the posterior part of the kidney at its inferior surface, it gets between the peritoneum and psoas muscles, and is then traceable back to the bladder, into which it opens.

The renal arteries, one for each kidney, arise at almost right angles from the aorta, after the latter has given off the anterior mesenteric. The right one is more anteriorly situated, and is longer than the left one. After each renal artery has given off a branch or more to the supra-renal capsule of the same side, it divides, on reaching the hilus, into a variable number of branches, usually eight or ten, which pierce the kidney at different parts of the hilus, whilst a few branches proceed along the surface, supplying the capsule, and then also piercing the organ. The arterial branches entering the kidney have a definite arrangement, forming a kind of arch superiorly to the pelvis, from which secondary divisions emanate and pierce the organ in

all directions, so as to reach the cortical substance, abruptly dividing into numerous branches, which eventually subdivide to form capillaries. By this it is evident that the cortical substance is more vascular than the medullary, indeed the latter is very scantily supplied with arterial blood.

From the arterial terminations the venous origins occur, and these unite to form branches, having a similar arrangement as the arteries; only as they reach the pelvis, almost opposite the apex, they meet to form a wide capacious trunk, the renal vein. This is supplied with valves, not all of which are perfect. At the opening of each renal vein into the cava is a semi-lunar flap overlapping the posterior part.

The nerves of kidneys are numerous, and derived from the renal plexuses of the sympathetic: they accompany the vessels with which they penetrate their respective organs.

Lymphatics may be seen issuing from the hilus of the kidney; they enter some lymphatic glands there situate, and then convey the lymph into the receptaculum chyli.

Supra Renal Capsules.

These bodies, also called capsulæ supra-renales, seu atrabiliaræ, are two in number, and belong to the class vascular glands, whose office is very indefinitely known.

They are situated one on each side of the spine, across the direction of the renal vessels. Their attachments are effected by vessels as well as by the peritoneum on their inferior surface, connecting them to the corresponding kidney and around to the spine.

The shape of the supra-renal bodies is much the same on either side, being that of a slightly bent ellipsis. They vary from three to four inches in length, and from one-and-a-half to two inches in breadth.

Their concave border corresponds to the renal vessels, as well as to the anterior mesenteric arteries. The convex border is in contact with the inner margin of the kidney. The anterior extremity of the right one is in connexion with the right hepatic lobe, whilst its inferior surface is in connexion with the commencement of the colon. The left supra-renal capsule is related anteriorly to the pancreas, and inferiorly to the transverse colon.

The peritoneal coat of the supra-renal capsules is merely confined to their inferior surface. The proper substance of the organ is enclosed in a fibrous or albugineous coat, which forms a distinct covering externally, and becomes continuous as sheaths to vessels internally.

On cutting horizontally across a supra-renal capsule, it is found to consist of an outer cortical and an internal medullary substance. The cortical substance is a brownish yellow, due to fat contained in vesicles, which, according to Professor Heinrich Frey, are smaller towards the surface than more internally. The medullary substance has a greyish aspect, and vessels are apparent in it, as also a yellow tinge, due, according to the above-named author, to similar vesicles as in the cortical substance, only much scantier in fat.

The arteries of the supra-renal capsules are offsets of the renals and anterior mesenteric, as well as of the aorta, but very variable in number and origin. They are, however, always abundant, and enter the organ principally at its concave border.

The veins are larger than the arteries, and pour their contents on the left into the renal vein, and into the vena cava on the right.

The nerves of the supra-renal capsules are very abundant, and derived from the renal plexus. Professor Frey states, that in the horse, ganglion corpuscles constitute one of the structural elements of the nervous tissue in this situation.

Ureters.

The ureters, one to each kidney, are conduits between the kidneys and the bladder, for the passage of urine. Their caliber is various, being about one-third of an inch broad, but getting narrower posteriorly.

As the ureters issue from the kidneys they converge towards the spine, then proceed suddenly backwards, till they reach the brim of the pelvis, having thus greatly diverged; here they converge again, passing downwards and backwards to reach the sides of the body of the bladder, which they pierce.

In their course the ureters are attached to the kidney and *psoas parvus* by loose cellular tissue, and by the peritoneum, which suspends them, by being stretched across their inferior surface. After the ureters have crossed the spermatic and iliac vessels they are received within a fold of peritoneum, constituting the false ligaments of the bladder.

They pierce the muscular coat of the bladder at a distance of about three inches from each other, if the viscus be distended. They pass between the muscular and mucous coats for about an inch, being somewhat diminished in caliber, when they suddenly open into the cavity by an elliptical orifice, so that if the bladder be distended, the sides of the orifice are stretched, and thus closed.

The ureters are externally covered by a cellulo-muscular coat, consisting of a cellular tissue with muscular fibres arranged partly longitudinally and partly circularly, the latter being most internally situated. The ureters are internally lined by mucous membrane, continuous anteriorly with the renal pelvis, and posteriorly with the vesical lining.

The membrane is loosely attached to the outer coat, and thrown into longitudinal effaceable folds.

Bladder.

The bladder is a dilatable musculo-membranous viscus, destined for the temporary retention of urine. It is situated during vacuity entirely within the pelvis, but when distended, even moderately, its fundus encroaches on the proper abdominal space.

The bladder is held in situation by the peritoneum coming off from the rectum and sides of the pelvis, so as to form a serous fold, which also encloses the vasa deferentia and vesiculæ seminales. Besides this, the bladder is supplied with true ligaments, as well as bounded posteriorly through the intervention of the urethra.

The shape of the bladder is pyriform, approaching, however, to a sphere when empty or partially distended.

It presents for consideration a projecting anterior portion or fundus, a middle part or body, and a posterior one, or neck. The fundus is globular and regular, having fixed at its anterior part the two obliterated umbilical arteries, and the remains of the urachus. The body has no precise limits, but may be considered as that portion on which the bulbous portions of the vasa deferentia rest. It is circular, but if the bladder be much distended, it bends somewhat backwards and upwards. The cervix vesicæ is the most constricted part of the organ, and marks the limit between the bladder and urethra.

The bladder is related by its fundus to the iliac flexures of the colon, inferiorly to the pubic and ischial bones, superiorly to the ureters, vasa deferentia, vesiculæ seminales, and middle part of the rectum.

The bladder has three coats. The peritoneal investment is merely a partial one, as it is reflected from the body on to the sides of the pelvis. It covers the superior surface almost completely, but its extent gradually declines laterally and inferiorly. The attachments contracted by the peritoneum are termed false ones. Thus we have the two umbilical arteries, one on each side, enclosed by peritoneum, forming the two lateral false ligaments. Then the vestige of the urachus is similarly enve-

loped by peritoneum, and constitutes the anterior false ligament. The peritoneum coming off from the rectum on to the superior surface of the bladder, gives rise to a pouch termed the rectovesical pouch, or cul de sac, and laterally to the triangular folds limiting the latter, known as the superior false ligaments. Behind the peritoneal reflection, the bladder is attached to the rectum and pelvic parietes by a continuation of the pelvic fasciæ, which, leaving the inferior surface of the pelvis at the symphysis pubis, comes on to the bladder, forming the inferior true ligaments of the latter; the fascia is then continuous on to the rectum, blending with the cellular coat. The pelvic fascia is also traced on to the prostate and sides of the bladder from the posterior part of the obturator foramen, constituting the lateral true ligaments.

Beneath this fibro-serous coat are muscular fibres arranged in a peculiar manner. There is an outer longitudinal set traceable from the cervix forwards towards the body, where the fibres diverge and become oblique, and some even circular; this layer is principally developed posteriorly. The inner or circular layer is not arranged in concentric rings; but its fibres, beginning at the fundus, appear to arise from various centres on the surface, and to be taking a direction more or less curved in different parts, so as to get transversely to the long axis of the viscus, and thus from the inner side have a circular appearance. These fibres are more decidedly circular at the neck, and act somewhat like a sphincter. Some of the deeper fibres at the neck of the bladder extend forwards to each orifice of the ureter, marking the limit of the vesical trigon, whose office must be that of approaching the lips of the elliptical apertures.

The mucous coat of the bladder is generally more or less coated with mucus and epithelium, which guard the structure from the corroding effects of the secretion it has to come in contact with. It is thrown into numerous folds, taking various directions, but principally concentric towards the fundus, and longitudinal at the cervix, all of which are effaceable by distention of the bladder, and are most prominent when the latter is collapsed. At the upper part of the urethral orifice of the bladder the mucous lining is smooth and free from folds, marking out a triangular space, bounded anteriorly by a line drawn between the orifices of the ureters, and laterally by two lines meeting at a spot at the superior part of the vesical orifice. This is termed the vesical trigon. At its apex is a projecting fold of mucous membrane or uvula vesicæ, which seems to moderate the flow of urine into the urethra.

The bladder is supplied with blood from the internal pudic, and its veins empty into the internal pudic vein.

The nerves of the bladder are derived from the sympathetic, and partly from the two last sacral pairs which supply the neck.

The lymphatics go to glands surrounding the origin of the iliac arteries, termed pelvic lymphatic glands, from which vessels arise communicating anteriorly with the receptaculum chyli.

Urethra.

This canal in the male subject is not only purposed for the passage of urine, but also transmits the products of the generative organs. It extends from the posterior part of the bladder to the glans penis; but we shall only occupy ourselves with a description of the intra-abdominal or pelvic portion, which terminates at the bulb of the penis or ischial arch.

It is continuous anteriorly with the bladder, attached to the rectum and sides of the pelvis by fascia and loose cellular tissue and muscles.

The urethra is cylindrical, of considerable length, and its coats of no mean thickness. The pelvic portion of the urethra is generally about three or four inches long, taking a direction backwards and somewhat upwards.

It is related superiorly to the vesiculæ seminales, middle lobe of the prostate, and posteriorly it comes in contact with the rectum, but separated from it laterally by Cowper's glands.

The first or prostatic portion of the urethra is purely membranous, strengthened by cellular tissue and a continuation of the fibres of the bladder, the circular ones in particular, which are abundant anteriorly. The posterior two-thirds of the pelvic portion of the urethra are covered by a thick red muscular layer which completely encircles it, with the exception of that part coming in contact with Cowper's glands. This muscle is continuous behind with the muscular fibres of the penis, which constitute the accelerator urinæ. These fibres are externally mixed with longitudinal ones, a portion of which are merely the inner or inferior bundles of the retractor ani, whilst others are derived from the triangularis penis: both these muscles tend to fix the urethra. Postero-superiorly the fibres encircling the urethra are blended with the external anal sphincter. The retractor penis, which gets attached to the sacral bone, is a white muscle also, affording fixity to the pelvic portion of the urethra.

Beneath the muscular tunic of the urethra we find a loose cellular tissue, and posteriorly also some erectile structure continuous on to the penis.

On slitting open the pelvic portion of the urethra, to examine its mucous membrane, we find that it is smooth, glistening, and

thrown into longitudinal folds. It is antero-superiorly raised by the sub-mucous tissue into a permanent ridge, termed the crest of the urethra or verumontanum. This has a depression about its middle, and on each side are the elliptical orifices of the ejaculatory ducts, surrounded by the openings of the prostatic ducts. Posteriorly and laterally are little papillated projections pierced by ducts emanating from Cowper's glands. These tubular processes are arranged in two parallel lines longitudinally to the course of the urethra.

The pelvic portion of the urethra is supplied with blood from the internal pudic, and the veins empty into the vessel of the same name. Its nerves are derived from the two last sacral and accompanying sympathetic filaments.

The lymphatics of the pelvic urethra are similarly disposed to those of the bladder.

Generative Organs.

The last division of our subject is that of the abdominal generative organs, only a part of the generative system, and consisting in the vasa deferentia, vesiculæ seminales, prostate and Cowper's glands.

Vasa Deferentia.

There are two vasa deferentia, one from each testicle, for the passage of semen to seminal reservoirs.

The vas deferens arises from the posterior part of the epididymis or globus minor, passing through the inguinal canals, and reaching the abdomen; it is situated in the sub-serous tissue, taking a course upwards, backwards, and inwards, to reach the brim of the pelvis; then, crossing the course of the ureters, it gets on to the bladder, where it is dilated, and forms the bulbous portion.

Its attachments are serous and cellular to the various parts mentioned, whilst its posterior part is connected with the urethra.

The vas deferens is related, in its course from the inguinal canal, to the bladder; after it leaves the constituents of the cord, with the parietes of the abdomen; crossing the under surface of the iliac vessels, and reaching the bladder on the inner side of the ureter; also lying internally to the seminal vesicles, and the terminating portion being covered by the prostate.

The structure of the vas deferens is similar throughout, with the exception of the greater thickness of its coats at the bulbous portion, being thinnest where it contributes to form the ejaculatory duct.

This tube, of very various length, is constituted of an outer cellular investment, not requiring peculiar notice; of an intermediate contractile and elastic tunic; and, as its name implies, is composed of muscular fibres and elastic tissue, arranged in two layers, i.e. an outer longitudinal and an inner circular one, which are easily perceived.

The internal or mucous lining is thrown into longitudinal folds, in the narrow part of the duct; but in the bulbous part it forms permanent rugæ, taking various directions, so as to enclose irregular interspaces.

The vas deferens is supplied with blood principally from the artery of the cord, although the epigastric furnishes a twig to it as well. The bulbous portion is supplied also by vessels of no small caliber from the iliacs.

Its nerves are from the sympathetic, as well as from the second and third lumbar.

Vesiculæ Seminales.

The seminal vesicles are one on each side of the bladder, and act as receptacles for the semen.

Each seminal vesicle extends from behind forwards, upwards, and outwards, being external to the bulbous portion of the vas deferens. It is attached by peritoneum coming off from the sides of the pelvis and rectum on to the bladder. The posterior part is fixed by cellular tissue to the prostate and neck of the bladder.

The seminal vesicle is pyriform, being about three inches long and about an inch broad at its fundus, but more constricted at its neck. It is connected with the corresponding surface of the bladder and rectum, but partially separated from the latter by the prostate.

The seminal vesicle has an incomplete investment of peritoneum, covering only the anterior part, whilst the prostatic portion is covered by an outer cellular coat. Beneath this is an intermediate tunic partly elastic and partly contractile. Lavocat describes this muscular coat as easily studied after maceration in dilute nitric acid, when it may be found to consist of an outer longitudinal and inner circular layer, most developed at the fundus, but very thin at the neck.

The mucous membrane is plicated, the folds enclosing similar interspaces to those seen in the bulbous portion of the vas deferens.

The vessels are supplied by the internal pudic, whilst the nerves are from the lesser splanchnic and two last sacral pairs.

Ejaculatory Ducts.

Two in number, each being the common outlet to its corresponding vas deferens and seminal vesicle, so that their contents may pass into the urethra by an elliptical orifice each side of the depression on the verumontanum.

The relations of these ducts are simply to the prostate and urethra. When they reach the latter they pass between the muscular and mucous coat for some little distance, so that at first sight they appear shorter than what they really are.

The structure of the ejaculatory ducts consists in an outer cellular and inner mucous lining, both of which are very thin.

Prostate.

The prostate belongs to the class of secreting glands. It is situated on the commencement of the urethra and termination of the vesiculæ seminales, being superiorly related to the rectum. Its attachments to these parts are merely cellular, although it has some connexion with the sides of the pelvis, rectum and bladder, through the intervention of the pelvic fascia.

It is symmetrical in figure, and very variable in size, being quite rudimentary in aged geldings. It is of a grey colour, knotty to the feel, although spongy in texture.

The prostate consists of a middle portion or body and two lateral lobes. The former is in contact with the cervix of the bladder and urethra, the latter with the ejaculatory ducts and seminal vesicles.

This gland has a posterior convex and an anterior concave margin, whilst it is flattened from above downwards, although from its connexion with other parts it is rendered more or less convex from side to side.

The prostate is composed of an external fibrous or cellular coat, which forms a complete covering to it. On cutting the gland in any direction, it is observed by the naked eye to have an areolar appearance, being a net-work of variously disposed fibres, the larger ones of which are found to be tubular.

The prostate opens into the urethra around the orifices of the ejaculatory ducts by numerous apertures.

It is supplied with blood from the pudic vessels, and its nerves are derived from the lesser splanchnic and two last sacral pairs.

Cowper's Glands.

These also belong to the class of secreting glands, and have sometimes been called the lesser prostates. They are situated anteriorly to the bulb of the penis on each side of the membranous portion of the urethra.

Cowper's glands are covered by the triangularis penis of each side: they are about the size of a filbert.

Their structure, as apparent to the naked eye, is similar to that of the prostate in every respect, only the excretory ducts are ten or twelve in number for each gland, and linearly disposed on each side of the pelvic urethra.

Cowper's glands are supplied with vessels and nerves from the same source as the prostate.

Finis.

“ Sacrum sermonem quem ego conditoris nostri verum hymnum compono, existimoque in hoc verum esse pietatem, non si taurorum hecatombas ei sacrificaverim et casias, aliaque sexcenta odoramenta ac unquenta suffumigaverim sed si noverim ipse primus, deinde et aliis exposuerim quæ nian est ipsius sapientia, quæ virtus, quæ bonitas.” (*Galen de usu part. lib. III.*)

Errata.—In No. 288, p. 671, line 13, for “ appears ” read “ appeared.”

p. 678, — 43, for “ gastic ” — “ gastric.”

p. 679, — 14, for “ vaga ” — “ vagi.”

In No. 289, p. 25, — 27, for “ right axillary vein ” read “ left axillary or brachial vein.”

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

TREATISE ON THE ORGANIZATION OF THE FOOT OF THE HORSE, COMPRISING THE STUDY OF THE STRUCTURE, FUNCTIONS, AND DISEASES OF THAT ORGAN. By M. BOULEY. With an Atlas of 34 Lithographic Plates. Paris, 1851. Parts I & II. Fcap. 8vo, pp. 320.

[Continued from p. 38.]

WE left off in our last “ Review ” with a promise to submit such extracts from Strickland Freeman’s work*, published in 1796—a book become scarce—as bore upon the point we were at the time discussing, viz., the priority of claim to the exposition of the property of elasticity in the horse’s hoof, as a compound

* Op. Cit.

structure, added to the natural elastic property possessed by the substance of the horn itself; the only one, according to M. Bouley, recognised by Lafosse. When people talk about the elasticity of the hoof, it is very essential that this difference should be understood.

Freeman, who was a friend and "fellow labourer" of Sir Sydney Meadows, "in the *riding-house*," had no legitimate apology for writing on such a subject as "the Mechanism of the Horse's Foot," save the one urged by the Earl of Pembroke, when he introduced "Shoeing" into his "Treatise on Military Equitation;"* which was, that he considered that any gentleman who let his farrier, groom, or coachman pretend to talk to him about "the nature of the feet, the seat of lamenesses, sicknesses, and their causes, might be certain to find himself very shortly, and very absurdly, *quite on foot*" himself; for which reason it was, he urges in his *Preface*, "I was led to those researches on the anatomical construction of the foot, from having, by constant attention for some years past, carefully observed the various exertions of which the limbs of the horse are capable; and from having noticed, in consequence of frequent conversations with my late much regretted master in horsemanship, Sir Sidney Meadows, the necessity there is for preserving *the elasticity of the heels*, for those purposes." — *Preface*, p. viii.

Freeman descried nothing in the apparatus of the laminæ, save that the "villous surface," in which the organic laminæ terminate, "forms the *organ of touch*." But in the next page (13), where he comes to describe the "walls of the hoof, from the coronet downwards," he observes,— "These returns, inwards and forwards, take the name of bars or binders. They inclose the extremities of the cartilages, in the same way as the quarters cover the heels, and *equally admit of expansion and contraction*; so that when a horse is in full gallop, there is a repeated alternation of these opposite actions. For when his feet strike the ground, the elasticity of the bars aids the pressure of the bones in *the expansion of the heels*, which are again immediately contracted by the quarters the moment the heels are in the air again." Not that Freeman had no notion of elasticity or yielding in the substance of the laminæ; for, at

* Third Edit., 1778.

page 18, he says:—"As this laminated substance continues from the toe to each quarter, it is turned more and more aslant, by which it obtains a still greater power of *yielding to the shock*. The quarters being also made thinner, have more power of expanding themselves, by a given impulse from the bones." One more extract, and we will close Freeman, to look into a work of older date:—"A horse may be said to have a foot half-cloven, that is to say, *a foot having the power of expansion at the clefts of the heels*, but confined at the toe."—P. 101.

The above quotations leave, in our mind, little room for doubt in pointing out the authorities to whom the merit of the primitive exposition of the principle of elasticity in the foot ought *not* to be awarded, though they may not be altogether conclusive in determining the author to whom such merit is chiefly due, and especially when we come to append to them passages from writers of older date—such as *James Clarke* and *Osmer*—having undeniable bearing upon, if not direct reference to, the same identical principle. For example, James Clark, in 1782, wrote—"In the middle of the frog is a longitudinal cleft or opening, by which *the heels have a small degree of contraction and expansion* at every tread which the horse takes upon the ground." 3d edit. p. 36. And further on he says—"This part of the hoof (the part which projects backwards from the bones) contains a tough, fatty, cellular substance; *hence it easily admits of contraction and expansion*."—p. 38. While Osmer, of older date still, in 1764, writes—"To prove that shoeing is but a partial good, take this same narrow-heeled or strong-footed horse, pare down the crust as much as you can, cut the toe off round and short, and turn him out to grass bare-footed, he will become sound in course of time, if the interior parts of the foot are not diseased. The true cause of which is, that the foot not being confined in the shoe, the weight of the horse *expands the same*."—p. 20.

We shall now quit this part of our subject, simply with the remark, that the same point, more particularly as concerns Bracy Clark's share in the discovery, was mooted many years ago, and pretty warmly discussed in the numbers of our Journal for 1830-31; to which we may refer inquiring readers for very full and impartial accounts of a history which we

should not have thought it worth while to have dipped into afresh but for the statements we have deemed it incumbent upon us to canvass in the work before us.

BOURGELAT'S NOTIONS OF THE ELASTIC PROPERTIES OF THE FOOT come short even of Lafosse's. A few words in his *Theoretical and Practical Essay on Shoeing* comprehends all he has said on the subject.

"A volume duly proportioned, a regular form and substance solid and yet *possessing suppleness*, a fibre even and closely knit, constitute, in a general way, the qualities one looks for and ought to find in a (good) foot." And a little farther on, in speaking of the disadvantages arising from too large a foot, he says, "Owing to its *inflexibility*, its hardness, and more than all to its approximation to soft parts to which it serves as a defence, it causes them, through compression, more or less acute pain."

GIRARD'S OPINIONS, in the preface to the Third Edition of his Treatise on the Foot, disputes Bracy Clark's pretensions to the discovery of the elasticity of the foot, giving the originality, with more patriotism, we think, than justice, to Lafosse and Bourgelat. "But," adds M. Bouley, "not only have our authors refused justice to Bracy Clark, "Even his own countrymen, Mr. W. C. Spooner and Youatt, have denied him priority in the discovery: the former ascribing it to Lafosse, and the latter refusing even once to mention his name, although both have repeated his theories."

The answer to all this having been already given, let us proceed with our history, and pass on to

PERRIER'S THEORY ON THE ELASTICITY OF THE FOOT: one that came forth in a work he published in 1835,

ON THE MEANS OF PROCURING THE BEST HORSES, for the army: M. Perrier being the principal veterinary surgeon to the 2d Carbineers. This theory is almost the very reverse of the one generally received.

"At the moment the toe of the hoof strikes the ground, 'the weight, thrown principally upon the anterior parts of the foot, causes the descent of the sole at that part where its arch is greatest, the immediate effect of which is, the expansion of its sides:' such expansion being most effective at the time the foot comes down flat upon the ground, and the pressure descends directly upon the quarters and centre of the sole. But the

superincumbent weight produces no expansion beyond this. For, no sooner does this pressure come to exert its operation on parts behind the central line of the quarters, and begin to affect the posterior parts of the hoof, acting still in the direction of the same incline of the bony column below, than, instead of being a dilating force, it becomes a maintaining (*contractive*) one. And the manner in which M. Perrier explains this is as follows:—He regards the wall of the hoof as naturally oblique, as it advances from the heels, from above downwards and *from without inwards*, the inclination from above downwards and from behind forwards being on a level with the angle of inflection. This being the case, whenever weight comes to exert pressure upon the interior of this part of the hoof, as a necessary consequence, while the superior part of the wall is forced from within outward by it, the inferior part is constricted (*concentré*) from without inwards; the same as a dilating force operating on the upper border of a cylinder tends to contract the lower border of it.

“In this constriction below, the wall carries the sole back towards the concavity of the coffin-bone, causing the heels of the one to approximate more exactly within *those of the other*, whereby is brought about a sort of locking (*enclavement*) of the branches of the sole between the alæ of the coffin-bone, adding still farther to the maintaining (*contentive*) action.

“So that, according to M. Perrier, the foot enjoys the double property of dilatation and contraction; and it is the weight of the body which puts this two-fold property into action: *the dilating force* operating from the toe as far as the centre of the quarters, the maintaining (*contentive*) force from the same centre as far back as the extremity of the heels.”

This opposite mechanical movement of the hoof M. Perrier represents as an admirable provision against the dilatation the foot enjoys being in excess or having existence in parts of the organ which, from their bifurcate character, call for an action of an opposite kind. The theory, M. Bouley thinks, is, to say the least of it, ingenious, but asks “is it founded in fact?” He does not believe it is; and we perfectly agree with him.

THE EXPERIMENTS OF MR. GLOAG touching elasticity, combatted by EXPERIMENTS MADE BY MR. REEVE on the same point, as detailed in vol. xxii and xxiii of THE VETERINARIAN, come next under notice; both of which, being within the recent recollection of our readers, we shall pass over in silence,

together with the passing comments they have elicited from M. Bouley, in order that we may reserve our notice for the "Second Part" of the inquiry before us, in which we find M. Bouley propounding his own views of the elastic properties of the hoof. These occupying considerable space, however, must necessarily be put by for our next number.

[To be continued.]

VETERINARY JURISPRUDENCE.

*Action for Damages occasioned by Sheep-dipping Composition,
at Exeter, before J. Tyrrel, Esq.,*

EXETER DISTRICT COUNTY COURT.

HUGGINS v. FROM.

Mr. Huggins (the plaintiff) stated that he had bought Bigg's sheep-dipping composition of the defendant for several years. In 1850 he bought forty pounds of a similar composition, prepared by Mr. From, who lent him an apparatus for dipping. He paid particular attention to the directions sent with the composition. Used rather more water than was ordered (fifty-one gallons instead of forty-three), and dipped 229 sheep in the quantity sold him for 200. He had still enough for twenty sheep left; he assisted in the operation, and attended to the instructions given. Two or three days after the dipping, the sheep appeared stiff, and could scarcely walk—they seemed to be paralysed; he examined them, and found them blistered, as if they had been scalded. After a week, they would fall down, and were unable to rise again: the blisters became worse, and broke; abscesses were formed into the bone. He called in a farrier: eventually twelve died, eleven lambs and one ewe; they turned black: the dogs and the flies would not touch them. All that were dipped were injured more or less—twenty-eight were under treatment for three or four weeks, being unable to stand; the ewes lost their teats, and out of about fifty, he had only eleven fit to breed from. He had twice seen defendant on the subject, who declined to make any compensation. He valued the eleven lambs which died at £1, the ewe at £1.10s., and the injury done to the others (217) at 3s. each.

In cross-examination, he stated that he had lost two sheep in a former year, after dipping in Bigg's composition.

Other witnesses corroborated the substance of the statement.

Dr. Shapter said, Mr. Huggins had brought him some composition, which he had analysed with Mr. Tucker. He found it contained ten per cent. of arsenious acid, sixty of sulphur, twelve of potash, and eighteen of fatty matter. The effect of the potash would be to form an arsenite of potash, and the fat was merely the vehicle. He described the corrosive effects of arsenic and arsenite of potash on the skin, and on abraded surfaces, and calculated, that, supposing the composition to be equally diffused or dissolved in the water, and that each fleece absorbed two quarts, the quantity of arsenic applied to each would be fifty grains, which he considered enough to produce the symptoms described. He had analysed some of Bigg's composition, which was similar to the above, but that of Mr. Froom was more intimately mixed, the arsenic appeared to be more chemically combined, and therefore likely to act more powerfully.

Mr. Tucker supported this evidence.

Mr. Edward Trood, of Exminster, had also bought Bigg's composition of defendant; but in 1850 he had bought some of Mr. Froom's, which the latter offered at a cheaper rate. He lost 45 ewes, and above 200 were injured.

Mr. John Drew, of Peamore, had used Froom's composition : his flock had suffered very much; seven died.

Mr. John Whippell gave similar evidence.

Several other sheep-owners made similar complaints.

FOR THE DEFENCE, it was contended (by Mr. Stogden) that his client was not by law responsible for the consequences; and secondly, that those consequences were not referrible to the composition he had prepared. The composition had been sold for the avowed purpose of destroying animal life, namely, the vermin on the body of the sheep. Its dangerous properties were known and properly represented, and precautions given accordingly, but no warranty. It had been used successfully, and without injury, in numerous cases, as he should prove in evidence. As to the second point, he maintained, that the mischief which had occurred was the result of carelessness on the part of the operators, or deviation in some important particular from the instructions. In some instances, sixty sheep and upwards were dipped within the hour, which did not allow time for washing off the adhering liquor—thirty or forty being the maximum number, according to the instructions. Flannel, stockings, or linen rags had been used, instead of sponge, for wiping them, and these substances being less absorbent, did not remove the liquid effectually. Some of the parties had continued adding fresh portions of the composition to the liquor, instead of making

a new bath as often as directed, by which deviations, it was contended, that the strength had accumulated. Mr. Froom was a skilful and scientific chemist : his composition resembled that of Mr. Bigg, but was more chemically mixed. Bigg's composition had been in great repute for many years.

Several sheep farmers here gave evidence of their having used Froom's composition without evil consequences.

Mr. Froom himself stated, that he had been a chemist for many years, and his father before him from 1799. Had sold Bigg's composition for some years. In May 1849, Bigg gave notice that he should discontinue his agency, and supply the article direct; he afterwards wrote, requesting him to resume the agency, but he (witness) had commenced making his own, as follows :—

5lb. Arsenic,
5lb. Sulphur,
20lb. Soft Soap,
 $\frac{1}{2}$ lb. Salt of Tartar.

Had not varied the recipe in 1849, 1850, or 1851. The soap was warmed, poured into a mortar, and the ingredients rubbed together. He made 30lb. at a time. He had seen similar formulæ in standard works on veterinary medicine, some of which contained more arsenic than his own. He had furnished some of his own and some of Mr. Bigg's composition to Dr. Hulme for analysis. Believed there was very little difference; had not observed solid particles of arsenic in either.

Dr. Hulme, of Exeter, had received the samples for analysis, and had sent a portion of each to Mr. Herapath. The following was the result :—

FROOM'S.		BIGG'S.	
Sulphur	10.75	Sulphur	22.
Arsenic	11.64	Arsenic	20.08
Potash	7.61	Potash	6.56
Oil and fat . .	70.	Oil and fat . .	51.36
	<hr/> 100.00		<hr/> 100.00

Bigg's, therefore, contained much more arsenic than Froom's. There was no formation of arsenite of potash in either, as, mixed with sulphur and fat, there would be no contact. Putting eight pounds to forty gallons of water, he was of opinion that arsenite of potash would not be formed. Adding eight pounds of Bigg's composition to forty-three gallons of water, it would be much stronger than the other; both would deposit a sediment. In Bigg's there would be more arsenite of

potash, because in Froom's there was a larger quantity of oil or fat. He had made baths with a small quantity of each, using the same proportion of water at the same temperature. In Froom's he found rather more than half a grain of arsenious acid in solution, in the other about a grain. Was aware that other compositions were used, some of which were stronger. Should not anticipate any bad consequences from using Froom's composition according to his instructions, washing the sheep properly afterwards. Sponge would be better than flannel for wiping them. Considered the bad effects to have resulted from want of care in regard to the instructions given.

Mr. Coleridge (for the plaintiff) replied.

HIS HONOUR, after a careful and critical analysis of the evidence, and a due consideration of its bearings as affected by the law, delivered judgment as follows:—Believing that no care which could have been taken—using Mr. Froom's wash in its full strength, and according to the directions given—could altogether have preserved him (the plaintiff) from a very severe loss, for that loss I assess the damages as follows:—For the eleven lambs that died, I give the sum claimed, £1 each; for the ewe that died, also the sum claimed, £1.10s.: I think the flock sustained damage to the amount of £10; and I award 10s. for the farrier. The judgment, therefore, will be entered for the plaintiff, damages £23.

Mr. Stogden (for the defendant) added, it having been stated that there had been no misrepresentation on the part of Mr. Froom, certainly gave him great reason to consider that a reconsideration of the case before another tribunal would lead to a different result.

HIS HONOUR had found as a fact, that Mr. Froom stated, that the wash was a safe one, if used according to his directions, and he had found as a fact, that it was not a safe one.

Abridged from the Western Times.

* * * The *Pharmaceutical Journal*, for Jan. 1852, has the following judicious comments on the above case, one of high importance, no less to farmers and graziers than to vendors of horse and cattle medicines generally.

“The verdict in the case of *Huggins versus Froom* involves a principle which is applicable to the sale of cattle medicines generally. The precedent is liable to be construed, we might say perverted, to the injury of the chemist, whenever mischief arises from the injudicious use of powerful remedies sold by him, and applied by others. The composition sold by Mr. Froom is intended to destroy animal life. The farmers who

purchase it know that it is a strong poison; they know that it contains arsenic. Unless it contained arsenic, or some ingredient equally potent, they would have no faith in its efficacy. Whether it be right for an agent of this nature to be trusted in the hands of farming men, is a question which we are not now discussing. The question before us is, whether the chemist who sells it ought to be held responsible for the consequences of its application?

“There is abundant evidence to shew that the composition may be applied not only without injury, but with positive benefit; there is also evidence of injury having resulted from its use in some instances. When opposite results are produced by the same remedy under different circumstances, and in the hands of different persons, it is reasonable to infer that the mode of application has not in all cases been the same. Who, then, is to blame when an accident occurs;—the man who sells the composition, or the man who applies it?

“If it had been warranted free from risk by the vendor, the question would have been easily answered. This, however, was not the case: its dangerous properties were known and represented, and precautions given accordingly. It has been argued that this is an implied warranty, subject to the observance of the precautions. Even if this were granted, how is positive and impartial evidence to be obtained? The parties who apply the composition are the farmers and their men; they are the only witnesses as to the mode of application, and, if they have performed their work clumsily, they are not likely to condemn themselves. They may even be unconscious of any deviation from the instructions. In the hurry and confusion of catching, dipping, washing, and wiping 500 or 1000 sheep, they may unintentionally neglect some precautions, and state that the work has been properly done, believing that to be the case. If any slight deviations be proved, it is a matter of opinion whether these are of any importance or not, and in the late trial the witnesses were at issue on this point. Some of the farmers who were witnesses had met with similar accidents themselves, and their sympathies went entirely with the plaintiff. It was, indeed, insinuated at the trial that they had united and shared the expenses, being all interested in the result. The defendant had no means of rebutting such testimony except by cross examination, as neither he, nor any witness on his side, was present at the dipping.

“Yet the verdict was given against the defendant, and he was made responsible for the acts of others over whom he had no control, on the *ex parte* evidence of those who performed the said acts.

“Leaving the case of *Huggins versus Froom* without further comment, we have to consider the probable influence of this precedent on future cases of a similar nature. The chief incentive to caution in the use of violent remedies is the consciousness of responsibility—the desire to escape the loss which would result from negligence. This motive is considerably weakened when the party knows that the loss, if any, will fall upon another. Without any dishonest intention, the sheep-dipper will be tempted to rely too much on the person from whom he has obtained the composition, and to underrate the importance of the part which he performs himself.

“The precedent being laid down that the chemist is responsible, and this principle applying equally to cattle medicines in general the use of which is attended with risk, actions may be brought whenever any accident occurs; and the defendant, for want of evidence which he has no means of obtaining, may, in many instances, be the sufferer, when, in fact, he is not at all in fault. To meet this contingency, we suggest to those who are in the habit of selling sheep-dipping composition, or other compounds of a similar nature, that they ought to protect themselves by an explicit declaration, stating to what extent they are willing to be held responsible, placing the purchaser in possession of the best information they can afford as to the precautions to be adopted, and leaving him to use his discretion at his own risk.

“There is a prudential expedient, which is highly desirable, if practicable;—we allude to the introduction of an application capable of effecting the desired object, without the risk which attends the use of arsenical compounds. We strongly suspect that a mixture of potash, soft soap, and sulphur, without the arsenic, would be attended with a good result. Such a compound is fatal to the itch insect and some other vermin. Whether it would be as efficacious as the arsenical composition or not, can only be ascertained by experience. So strong is the prejudice of the farmers in favour of arsenic, that it would be difficult to persuade them to depart from their regular habit; but, after the numerous accidents which have occurred, it would be wise to make the effort. Arsenic was at one time believed to be the only effectual preventive against the smut in wheat. Sulphate of copper has been found to answer quite as well, although many farmers are still wedded to arsenic.”

Foreign Department.

ON DORSO-LUMBAR SPRAIN IN THE HORSE.

By M. ARM. GOUBAUX,

Professor of Anatomy and Physiology at the National Veterinary School at Alfort.

[Continued and concluded from page 46.]

SYMPTOMS :—We shall be excused for having described the lesions before the symptoms which denote their existence. It was deemed best to invert the usual order of description for the purpose of shewing how lesions varying so much in their seat, their nature, and their extent, could give rise to one common symptom. Hence it happens that all such lesions as alter the concatenation of the vertebral chain become manifest by the symptom we call (*tour de bateau*) “rick (or *ricket*) in the back.”

During rest, the hind legs of such horses are more or less advanced under the centre of gravity, and are spread abroad: some, indeed, stand in the posture of staling. Sometimes the body may be observed to be athwart to one side or the other, and frequent muscular contractions may be observed in the limbs, shewing an evident weakness, and difficulty in maintaining the standing posture. Lastly, we may detect more or less tenderness by pression in the region of the loins, or else there is complete insensibility.

In walking or trotting, besides the difficulty of its performance, will be apparent the remarkable waddling gait of the hind quarters, *tour de bateau**. The hind legs straddle in their advance, sometimes drag the ground, and, when that is the case, experience the greatest difficulty in circling and backing. Every now and then they suddenly fail and sink down, and as quickly recover themselves; or else, when stopped, the animal bends his hind legs under his body and shrinks down upon his quarters.

These symptoms may betoken two distinct pathological states of the dorso-lumbar spine, either separate or in combination :—
1st. *Pain*; since it is certain that sprain of the ligaments must give rise to it, which the animal endeavours to relieve by various irregular movements characteristic of “rick” in the loins;
2dly. *Discontinuity* in the dorso-lumbar spine; so that, the impulsion (in progression) communicated by the hind limbs to the spine, acting on a breached or broken part of it, causes contortion, instead of transmitting the force direct to the fore quarters.

* So called because the waddling or rocking movement of the quarters has been compared to the motion of a boat rocked from side to side by the waves.—*Bourgelat*.

It is impossible, as I have said before, to establish any exact relation between the intensity of the symptoms and the situation and nature of the lesion; a circumstance that renders the *prognostic* a grave one; not because the accident puts the animal's life in any immediate peril, but because he is no longer able to render the services expected of him.

TREATMENT.—Garsault, viewing sprained loins as no more than *relaxation* of the muscles, treated it accordingly. Almost all authors, however, since him, Lafosse, Robinet, Vatel, and Hurtrel D'Arboval, enjoined preliminarily that the animal should not be permitted to lie down, for fear he might, either in lying down or rising, renew the mischief. With this precaution they recommended such remedies as are in general use for inflammation, such as blood-lettings, clysters, &c.; and, lastly, to rub the *reins* with brandy, oil of turpentine, &c.

At the present day, the same means are employed; though at the commencement it is usual to apply a pitch plaster, containing cantharides, upon the loins, or, as a last resource, to cauterize the loins. But, do we believe such remedies to prove efficacious always? Certainly not, inasmuch as such treatment oftentimes is applied at a distance from the seat of the disease, viz., upon the loins, while the disease happens to be along the anterior part of the dorsal region, as we shall see in the cases with which the present paper will be closed.

Nevertheless, these are the therapeutic measures to which we should have recourse, though we may calculate that *time* is the most to be relied upon; for in all the microscopic examinations I have made, I have ever observed, in actual or prospective operation, a repairing process, a sort of callus, destined to impart to the vertebral column the solidity which it had lost. In order to insure such repair, the essential condition is *absolute rest*; and I believe that we should act wisely in our endeavours to bring about this end, were we to sling our patient.

I have seen horses who, after having exhibited ricked back for a certain time, have been perfectly cured by the employment of therapeutic agents, so as to be able to resume their usual work. What were the nature and extent of such lesions? These are two questions it is impossible to answer.

Duration.

I have generalized the observations I have made, in regard to the pathological anatomy of sprained loins. They constitute the sum of a large number of post-mortem examinations. I shall therefore conclude this memoir by three cases, interesting on several accounts, and especially because they have no

parallels, that I am aware of, either in general treatises on the subject, or in the periodical publications of veterinary medicine.

THE FIRST CASE.—A gelding, fit for light draught, about twelve years old, purchased by his present master, who had not had him long, in the hope that, through rest and suitable treatment, he might be got right.

On examining him, I found the usual symptoms in a marked and severe form. *His autopsy* displayed, in both thorax and abdomen, nought but healthy appearances. I remarked considerable engorgement along the inferior part of the fourth, fifth, and sixth dorsal vertebræ, which are (we all know) completely clothed by the thoracic portion of the long muscle of the neck. This muscle is altered in most of its physical properties. It exhibits a greyish tint, is crisp under the knife, while its cut presents a fibro-lardaceous aspect, and its fibres altogether seem as though they were homogeneous in composition.

Within the substance of the muscles, running in a line, on the left side, were several small abscesses communicating with one principal abscess, which contained about an ounce of laudable pus. On the right side the muscle was nowise altered in structure superficially, though its interior substance presented the same lesions as that on the left side.

Besides these appearances, which were unusual, there were exostoses upon the bodies of the middle lumbar vertebræ, and holes through them opposite to their articulations, leading into the cavities of the joints, whose ball and socket surfaces were eroded and altogether altered. And not only these, but alterations were likewise perceptible both in the spinal canal as well: the lesions constituted a breach of continuity, (*fracture dans le contiguité*).

THE SECOND CASE, perfectly analogous to the first, is that of an entire horse, of the heavy draught description, about twenty years old. This was a case in which walking was with great difficulty and danger performed, and the last time he was led out the horse fell down, unable to rise again, in consequence of which he was destroyed. Similar changes had taken place in the corresponding muscle and bones, without any alteration either in the spinal canal or cord running through it.

THE THIRD CASE. Entire heavy cart-horse, seventeen years of age, given up to the school. In his going, more particularly in his gallop, the wavering motion of the croup and the irregular motion of his hind limbs declare his complaint. On dissection, an osseous tumour was found opposite to the third lumbar vertebra, throwing the grand sympathetic nerve out of its course, and the lesser psoas muscle as well, though both parts

remain uninjured. On the left side is a smaller but similar tumour, which, by uniting with the right side tumour, forms a canal through which the posterior aorta is seen passing. Similar osseous growths extend as far forwards as the seventh dorsal vertebra, making in places the same sort of supplementary canal. The intervertebral discs in the loins are partly destroyed in some places, while in others they exhibit a yellowish green tint. False anchyloses, likewise, are commencing. The spinal marrow is sound throughout.

Recueil de Méd. Vét. Juillet 1852.

INQUIRIES INTO A DISEASE OF THE HORSE AS YET BUT LITTLE KNOWN.

By O. DELAFOND,

Professor of Pathology at the National Veterinary School, Alfort.

UNDER the above anonyne is presented to us a disease of grave character (*une maladie grave*) yet but little known, which M. Delafond believes to have its origin in some important modification in the organic elements of the blood. The disease presents itself under two forms, types, or stages. The first form M. Delafond has been in the habit of describing in his lectures under the appellation of *acute enteritis with alteration of the blood*, this alteration being very remarkable before the disease even declares itself, while there supervenes an inflammation of the mucous lining of the intestinal canal. The second stage or form, M. Delafond has named *anæmia*, or *Hydro-æmia*, appellations generally adopted by veterinarians. The disease is no new one. For these fifteen or twenty years past it has been known to destroy great numbers of the farmers' horses in the country, particularly in parts where artificial productions constituted the principal provender. A variety of circumstances influence the progress, intensity, and termination of the disease, though in its *nature* it has undergone no change whatever.

IN ITS ACUTE FORM, the approach of the disease is recognised by a yellowish-reddening of the conjunctives, which sometimes shew reddish brown spots, that vanish shortly afterwards, or, may be, continue their existence; the pulse is full and strong; the hair draws out easily, and the skin is warmer

than usual. The tongue is hot, and around its borders and point exhibits red spots. The hind quarters drag in their motion. In fact, the horse is heavy and disinclined to work. *Inspection of the blood*, however, it is by which we become best informed about the case. In issuing from an opened vein it is of a very deep or black red. When collected, in thirteen or fourteen minutes (two or three less than in health), it coagulates, and exhibits its usual buff; but the latter has a yellow tinge, and continues for four or five hours in the state of tremorous jelly. No serum exudes from it, its contraction not having been forcible enough to squeeze any out. Nevertheless, if, after forty-eight hours, the buffy clot be excised with knife or scissors from the black part underneath it, and pressed lightly between the fingers, as much serum may be obtained from it as from healthy blood. Microscopical examination has added nothing to our knowledge of the nature of these alterations. The first stage lasts about two or three days, though it may seven or eight; but in a rapid case it endures no longer than twenty-four hours. Indeed, so transitory and light may be this preliminary stage, that the groom or the owner may perceive no more than some unusual dulness about the horse, and attribute it to laziness at work, or over fatigue, so that the

Second stage generally arrives before the horse is thought to be ill, or the veterinary surgeon is called in. The horse falls off his feed; stands in the stable with his head hanging down, with his halter-rope on the stretch; he is thirsty; his eyes have the yellow-red cast, and are, besides, infiltrated, and perhaps watery; the mouth is dry and hot, and contains a thick and often fœtid saliva; aphthæ may sometimes be seen upon the gums and lips; the tongue shews redness around its point and borders, is sedimentous, and withdraws itself tremorously from between the fingers. Sometimes the appetite is still preserved, though the digestion is faulty and gives rise to abdominal uneasiness; the pulse is small, quick, and soft; the beatings of the heart are strong and vibrating, and exhibit the metallic tinkle; the skin is hot and dry; the reins stiff often; the sheath sometimes infiltrated, as well as the hind legs; the urine thickened and highly coloured, but not bloody; the respiration frequent, full and deep, though neither auscultation nor percussion betrays pectoral anormality of any kind. Grumblings (*gargouillements*) are frequently heard among the intestines, sometimes accompanied by fits of cholic; the dung mostly very slimy; the walk, weak and unsteady, sometimes proves too great exertion for the animal by occasioning acceleration in his breathing, &c. Never do we see those paroxysms of shortness of breath, intermittent

or irregular, and short of duration, or any swelling of the sub-cutaneous lymphatic glands, or any bloody or œdematous tumours upon the external surface; by the absence of all which it becomes distinguishable from malignant typhus (*charbonneuse*) fever, with or without superficial eruption. At this period, setons, sinapisms, vesicatories, &c. produce great swelling, with heat and tenderness, which speedily run into septic gangrene.

The Blood shews remarkable alteration. It is deep black, and trickles down the skin from the vein. In the vessel it looks like an infusion of coffee. Coagulation takes place in ten or twelve minutes at most (which is less by six or eight minutes than in health), the buffed part of the clot exhibits a deep yellow or saffron colour, and from twelve to twenty-four hours remains in the state of trembling jelly. Afterwards the clot acquires firmness; though but a very sparing quantity of citron-coloured serum exudes from it.

The duration of this second stage varies from two to five days.

The third stage exhibits an augmentation in the severity of the symptoms. The weakness increases; loss of flesh is apparent; the respiration grows deeper and more laborious; the pulse smaller and less perceptible; the eyes sunken; the conjunctives dark red, often livid; mouth more fetid; swelled more in sheath; flanks tucked up; sometimes painful cramps in the hind limbs; sinking down, and with struggles expiring.

Recovery seldom happens after the first stage has passed, without efficient remedy.

The passing of the disease into the chronic stage is denoted by its continuance, by the supervention of debility in spite of remedy, and by relapses during convalescence. Its pathology seems to consist in *intestinal inflammation complicated with the serious evil of some special alteration of blood.*

Post-mortem. — Carcass prone to ready decomposition. Muscles in places exhibiting yellow infiltration. A quantity of reddish serum in the abdomen. Intestinal (small) mucous membrane reddened and thickened, and in parts softened. The glands of Pryer and Brunner the same. Cæcum and colon containing dried aliment, and bearing evident traces of acute inflammation. Liver yellow, and readily lacerated. The respiratory organs, air-passages, and nasal cavities normal. Cavities of the heart full of black blood imperfectly congealed. Sero-albuminous effusion into the pericardium.

Resumé.—So that the marks of intestinal inflammation; the alteration of the liver; and the black colour and incomplete coagulation of the blood; are the chief lesions determinable in the

disease. These I do not, however, myself, believe to be sufficient to account for the symptoms. There must be some seat and nature of it undiscovered. The vital fluid would bear evidence of having undergone profound modification in its normal physical properties, and as well, doubtless, in the proportions and qualities of its organic principles. Indeed, without the admission of such changes we could not account for the serious and intractable nature of the disease. It has nothing in it to warrant a resemblance between it and malignant (*charbonneuse*) fever in horses or typhoid fever in man.

M. Delafond has reason to believe that the disease is not contagious.

As to the causes of the disease, M. Delafond has for a very long time been engaged in inquiries concerning it. As yet, however, he has not been able to come to any final conclusions. Such as I give here, he says, I wish, for the present at least, to be regarded as directing marks for other inquirers. I have reason for desiring the special attention of farmers and veterinarians to the feeding of horses almost exclusively upon fodder and grain, the product of leguminous plants, which make up the major part of what is called artificial food. For these fifteen years I have ever observed the disease raging especially in those localities where artificial pastures, lucerne, trefoil, sainfoin, vetches, beans, peas, and other leguminous productions constituted the chief rotation of crops, and served as the almost invariable routine of horses' food. It was this fact which struck me, and set me seeking after the explanation.

It is not for me to set myself up against the great advantages accruing to agriculture from the culture of artificial grasses and grains, or to pretend to dispute the excellent food they make for herbivorous domestic animals; but I feel myself quite at liberty in entertaining the opinion, that such aliments given in abundance to horses and ruminants for any length of time, are liable to create grievous disease in them, variable perhaps in the form it assumes, though in real nature of the kind I have been describing. Such an opinion being one of vast import, I feel I ought to state the grounds on which I found it.

The seeds, stalks, and leaves of legumes, constitute that part of the food of animals which contains the largest proportion of organic matters that are soluble and digestible, and consequently assimilable, or, in other words, that contain the most azote. Analyses made of late years of these aliments set this fact down as certain. On the other hand, the experience of agriculturists shews, in no less degree, the nutritive value of such kind of food.

The following analyses are taken from MM. Einhof, Sprengel, Davy, Boussingault, Dumas, and Payen.

	ALIMENTS.	AZOTE per cent.
GRAINS	Vetches and tares	5.13
	Lentils	4.40
	Buck-wheat	2.40
	Wheat	2.35
	Oats	2.24
	Barley	2.02
	Indian corn or maize . . .	2.02
HAYS	Lucerne	2.35
	Sainfoin	1.70 to 2.00
	Trefoil	1.54 to 1.85
	Meadow Grass	1.15 to 1.25 to 1.39
	Vetches and tares	1.16 to 1.20
	Lentils	1.18
	Wheat	0.70
	Oats	0.55
	Buckwheat	0.54
	Barley	0.30
	Rye	0.28

The foregoing table plainly shews,

1st. That the seed of vetches or tares and lentils contain twice, and twice-and-a-half, as much organic azotized and nutritive matter as oats and barley, which are the usual food of horses.

2d. That hay made of lucerne, sainfoin, and trefoil, of good quality, are likewise richer in alimentary ingredients than meadow hay.

Whence we may fairly conclude that, *cæteris paribus*,—climate, soil, getting up of hay, &c., being the same—the ration of grain and hay derived from artificial fodder of good quality ought always to be less than the ration of oats, barley, and meadow hay, of equally good quality. In regard to this, either the grossest ignorance or negligence prevails; seeing that farmers give their horses and cattle far too large a ration of artificial grain and fodder, regardless of its being fresh or in a dried state.

Recueil de Med. Vet., July 1851.

[To be continued.]

ON POUCHED HEART :

A DISEASE INCIDENT TO CATTLE DURING THE PROCESS OF FATTENING.

“Confestim apparebit.”

[From the Farmer's Magazine for June, August, October.]

[Continued from page 53.]

“It *shall* be a perpetual statute for your generations throughout all your dwellings, that ye eat neither fat nor blood.”—*Leviticus* c. iii, v. 17.

THERE is wisdom in this statute, for an animal laden with fat can no more be said to be healthy than another suffering from typhus, pleuro pneumonia, or any other acute or epidemic disease. It would be almost as reasonable to attempt to keep it healthy by giving it potass, phosphorus, or lime, as by feeding it with food incongruous to its nature. To take Muller's formula, the per centage composition of the three flesh-forming compounds are—

	Albumen	Fibrine	Caseine.
Carbon	55·46	54·45	54·66
Hydrogen	7·20	7·07	7·15
Nitrogen	16·08	17·21	15·72
Oxygen	18·27	19·35	21·55
Sulphur	2·16	1·59	·92
Phosphorus	·43	·33	—
	<hr/> 100·00	<hr/> 100·00	<hr/> 100·00

“Si vel minimum sanguinis vel nimis parum in corpore fuerit vel aliena ejus partium proportio facta fuerit vitium demum erit non leve et sæpe multorum et gravium morborum causa.”—*Gregory*, p. 512.

To suppose this strictly correct, therefore, any deviation in the proportions of the constituents of these compounds, however small, is to be viewed as produced from a morbid condition of the vital fluid, and so far is incompatible with a healthy state of the solids derived from the blood. Much more so is the blood to be considered when any abnormal matter is present, or whether either such deviations may produce an excess or a deficiency of albumen or of fibrine, or of caseine, and, as a consequence, whether the volume of blood contains an excess or a deficiency of corpuscles, their weight, figure, &c.

A series of useful and interesting experiments might be instituted to ascertain the quantity of *fibrine* present in the healthy and diseased conditions of the blood. The salts of lead

(super-acetate) and potass (nitrate) would be suitable agents for the purpose. By some such means, the proportionate amount of fibrine held in solution, as well as the amount of coagulation, rapidity of the process, &c. would be arrived at. The *arterial blood* would be afforded in the process of slaughtering. The *venous blood* by the ordinary operation of bleeding.

It may be objected, that pigs (unless the heart in them shall be found in the same state) as animals that fatten very rapidly, and perhaps to a greater extent than almost any other, may be taken as examples of the incorrectness of this view. But they are peculiar, and possess the property of increasing almost indefinitely in bulk, and certainly of great increase in the capacity of the belly. The pig, moreover, never has so great a quantity of what the butchers term "loose fat" in the belly as the cow, in proportion to its weight.

Another reason why the heart may not be diseased in the pig, is, the animal is generally killed very young, while the elasticity of the ribs is greater. And further, it is believed that the ribs of the pig have less density; yet it is no uncommon thing for fatted hogs to die of disease when just about to be killed for the market. *Post-mortem* examinations made by veterinarians have shewn that sudden death in fat horses, cows, and stall-fed oxen is frequently caused by rupture of that great reservoir of venous blood, the spleen, commonly called the melt.

In the fat sheep, the heart does not become so frequently pouched, and what has been said of the pig may be argued with respect to the sheep, the age at which it is slaughtered, &c. It is to be noticed that the pericardium (heart bag) in them quickly degenerates into a fat state. This is calculated to impede the heart's movements, and so in them the disease of the lungs is more common. Here, too, although the mischievous effects of fattening are evident enough, yet, as stated, there is but an approximation to pouched heart in the more frequent disease of another organ vitally important, as well as local dropsy of the heart-bag, and other serous cavities.

The disease called "red water," or acute dropsy, is an inflammatory state of the serous membranes, in which the colouring matter of the blood is mixed with the effused fluid. The susceptibility to this disease in the fat Leicestershire sheep is confessedly common. Indeed, the origin of tubercle, of glandular disease, nay, of cancer too, is of an inflammatory nature, and arises from a morbid condition of the blood. The complaint so common in thriving cattle, called "the black leg," arises from a diseased state of the blood rapidly induced, the liquid portion of the blood being thrown out of the bloodvessels beneath the cutaneous surfaces, where it acts as an extraneous and as a

poisonous substance, quickly inducing sphacelus or mortification, which often ends in death in a few hours.

It is to be borne in mind that in the feeding of sheep to fatness artificial food is not so often had recourse to. Yet is there something of an approach to this in the rank luxuriance of the herbage which produces such a condition. Their wild heaths, hills, and mountains should be preferred, where their locomotive habits suffer no restraint, where is their proper pasturage, where, too, sheep, when kept, their flesh retains superior flavour, not the oily taste of Bakewell's fat and feeble loiterers. The real gusto of the original *South Downs*, is almost annihilated by making them fat.

Ovibus "fuge pabula læta."—Virgil.

Cows accumulate fat much faster than oxen, and oxen faster than bulls. As respects the complete animal, it may be understood (owing to the sensorial function) why it should be so. These animals are of a greater age, generally, when killed, and, of course, there will be a greater diminution of the cavity of the chest than in pigs and sheep.

It may be argued too, in contravention, that hard driving, want of cleanliness, or skin diseases may have much to do in the production of pouched heart. As to the first, it is extremely probable that it may occasionally produce it. But the disease exists in so great a proportion that hard driving would not afford an explanation of the fact. In the majority of animals fattened their history sufficiently contradicts the assertion. In the hide bound animal is a prominent symptom of the commencement of the disease. The various forms of skin disease are occasionally symptoms of secondary significance. These, with want of cleanliness and poverty of diet, may have their due importance as contributory or exciting causes, and as regards the last named there is an opposite condition of the blood, a want of healthy adhesiveness of its particles.

"Scabiemque ferat."

When artificial food is given, the process of *rumination* is either performed imperfectly or not at all. The full grown animal has to perform digestion as the calf, while the artificial ingested food is with more difficulty assimilated than the green herbage—the animal's proper requirement. The quality of the animal must of necessity be proportionate to the quality of the *natural* food which supports it. That the young or sucking animal should be apparently free from pouched heart is to be understood in its having its natural food only, and in the greater simplicity of the progress of digestion than when full grown.

This in the young consists in the anatomical peculiarity of the tube leading to the stomachs. While the animal is fed on milk, the fluid escapes the two first, viz., the paunch and the honey-comb, which are nearly closed, and arrives at the maw, which is attached to the third (*manyplies*), as yet a narrow tube, where only can it be acted upon by the gastric juice to be fitted for digestion.

If gin-balls, rum and milk, and other fantastical compounds be administered (as is often done with calves), the rapid deposition of fat may be seen, as well as unusual whiteness—the unhealthy appearance of the meat. If the parent be fed on artificial food the milk is vitiated, and so the tendency to the disease in question is augmented at the earliest period in the succeeding race. Liberty may here be taken to insert a quotation from an able teacher on the subject of “Hypertrophy,” as it appeared in a provincial periodical some months ago, and as it amalgamates so closely with the theory here proposed.

“In many animals an excess of the carbonaceous elements of the food is attended with an accumulation of fatty matter in the body, but the quantity of muscular fibre, and of the other important structures possessing active qualities cannot be thus forced much beyond their natural standard. In the greater number of cases an increase of diet beyond the required amount induces a disordered or enfeebled state of the nutritive functions rather than hypertrophy. It may be that a large quantity of the nitrogenous products are admitted into the blood, causing a plethora of it. When that is the case, the muscular and other organs are very liable to suffer in their nutrition from being pampered in so rich a soil, and actually evince the effect in becoming atrophied, and undergoing fatty degeneration; or by a predisposition to inflammation. It may seem strange that a condition resembling that produced by a deficient supply of food should follow the indulgence in a too liberal dietary.”—*Humphrey's Lecture.*

These then, are the circumstances which determine the production of fat, and whilst they are present the accumulation of flesh does not go on, but diminishes; and this is conformable to what is at present known of animal physiology. Most assuredly it is at variance with the economy of animal health to maintain the general frame in a growing state whilst an abnormal quantity of fat is produced.

The State of the Lungs where pouched Heart exists.

The lungs are often found congested, that is, the blood which should pass through the minute endings of the pulmonary artery is stagnant. There is too much reserve or residual impure air:

in other words, the blood particles in the small vessels of the congested lungs have a tendency to adhere to each other, and also to the walls of the vessels, which the propelling action of the heart is unable to overcome. The heart's sensibility has been interrupted, its action at first tardy and enervated. To this succeeds irregular contraction and laboured efforts to overcome the difficulty imposed.

The congested state of the lungs is seen in dark purple spots in various parts of each lung. The right lung is generally most affected. The noxious blood so retained in the lungs is a source of disease to these organs. In cases of long continuance the lungs resemble the natural appearance of the melt, and this organ, too, is congested. Animals with congested lungs are very prone to receive *endemic* or *epidemic diseases*, which prevail from atmospheric influences and other causes (influenza, &c.); in which case the last-named complaint becomes more formidable, and runs through its different stages with rapidity equal to its violence. The animal so affected has to encounter a two-fold difficulty;—the peculiar disease induced by the process of fattening and the epidemic disease aggravated from that circumstance. This secondary disease is altered from that circumstance, and why? Because there is present morbid irritability of the stomachs and lungs with permanent disease of the heart. Such cases are mostly fatal. The appearances that have been named are precisely the same when animals have been said to die from typhus.

No attempt will here be made to argue the difference between congestion and inflammation; but it may be sufficient to state, that congestion of the lungs, where the heart is pouched, is followed by active inflammation, and this is succeeded by pus corpuscles, where the purple spots existed (they having first coalesced); ulceration follows, and a cavity is formed: the progress resembling the tubercle of the consumptive in man and beast.

It is a well known physiological fact, when the diseases that have been named, pouched heart and congested lungs, are present, that fibrine is not formed in the blood, that is, the flesh forming process does not go on, because the growth and development of the blood is not maintained in a constant ratio.

“Boussingault, in an extensive series of experiments, has proved the truth of this.”—*Liebig's Report*.

The quantity of blood, too, must be in relation to the quantity of *carbon* which the lungs can throw off, while *oxygen* must be freely supplied. An animal unaccustomed to healthy, open air, and suitable exercise, than which two greater deprivations could not be invented under the pretext of improving its con-

dition*, a kind of food is given which requires more exercise of the lungs, a greater proportion in the consumption of *oxygen*, and greater necessity for continued locomotion, in order to maintain a state approaching to health—the conditions absolutely requisite to effect development of carcass. These prerequisites not kept in view, the result is a morbid deposition of fat; for the liver cannot dispose of this excess of carbon without interruption to its healthy function, or without mischief to its intricate structure. The amount of *carbonic acid* yielded at each respiration is limited by the capacity of the lungs for *oxygen*; nor can more than a given amount of *urea*, or rather *hippuric acid*, be thrown off from the kidneys, which ingredient is, in fact, the vehicle of the surplus *nitrogen* necessary to be separated from the circulating blood. To each organ, its wonted economy, its limited healthy operation. There is a stop in the healthy chemistry of digestion, and when the products vary from their accustomed nature in some of the important organs of secretion, they are arrested as either unfit to be eliminated, or are sometimes thrown off in the excretions.

J. A.

THE VETERINARIAN, FEBRUARY 1, 1852.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

THE case of “Huggins v. Froom,” as copied into our present Number under the head of “Veterinary Jurisprudence,” presents features which, however the law may regard them, are by no means reconcileable in a pathological point of view. Medical reasoning cannot account for the alleged different, if not opposite, effects of two similar compositions, both containing arsenic, similarly used, under similar circumstances; and still less can any refinement or extension of such reasoning explain why that composition which contains in proportion the *less* quantity of arsenic should be the one declared to be harmful, and poisonous even, while the other should remain comparatively a *safe* remedy. And what renders these facts still

* “If young and healthy cows be brought from the country into the city, and confined in stalls attached to *dairies*, they at first become fat and sleek, but after some time several of them are observed to grow thin, become unhealthy, and if not speedily removed, fall into a state of marasmus. After death, tubercles are found in several textures of the carcass.”—*Andral*.

more strange is, that, as shewn by the analysis of the two compositions, made by Dr. Hulme, of Exeter, for the defence, in neither were any, nor could there be any, new compounds formed by the addition to the arsenic of the other ingredients, consisting of sulphur, potash, and oil or fat; nay, that when the two compositions, in equal parts, were diluted or mingled with equal quantities of water, the one alleged to have been productive of such mischievous and fatal consequences still contained, in any given quantity, *less* arsenic than that which alleged experience had shewn to be comparatively innocuous in its application. With such facts before him, no medical man could bring himself to believe, that the two compositions could have been used with equivalent precautions, and that in both cases the subjects were equally prepared, or in an equally fit condition to undergo the process of "dipping" in such compositions, or that they were in situations and under management equally proper for such an operation. In a word, that all the circumstances of the two cases could be identical, as it was proved was the fact as regarded the essential properties of the two compositions.

Turning out, however, as it did, that Froom's composition came to destroy several sheep, and to materially injure many others, what was done as soon as it was found that such ill consequences had befallen its use? Was a veterinary surgeon—the man who is supposed and ought to know most about such matters—sent for? No! Mr. Huggins "called in a *farrier*." And on the trial, a physician, Dr. Shapter, was subpoenaed, who "described the corrosive effects of arsenic and arsenite of potash on the skin, and on abraded surfaces, and calculated that, supposing the composition to be equally diffused or dissolved in the water, and that each fleece absorbed two quarts, the quantity of arsenic applied to each would be fifty grains, which he considered enough to produce the symptoms described." He admitted the similarity of the two compositions; but thought that in the pernicious one the arsenic was "*more chemically combined*, and therefore likely to act more powerfully." Setting the chemical part of the investigation on one side, we should have imagined that a veterinary surgeon would have been the most fit and proper person to have called in to

prescribe for the suffering and dying sheep, and that he ought, in a case of such pressing danger, to have received the earliest summons; and we are only surprised that no notice was taken of so manifest a dereliction of propriety on the trial.

We quite concur in the suggestion contained in the admirable commentary of the *Pharmaceutical Journal*, of the "prudential expedient" of inventing a curative application that shall not contain any arsenical or other fearfully poisonous ingredient. If the acarus can be destroyed, and thus the mange cured, in the dog and horse, without employing poisonous or corrosive applications, why cannot the insect and disease in the sheep be effectually got rid of in the same way? But the prejudice of the farmers is strong, and "Bigg's sheep-dipping composition" is in old repute among them; and it is only the recurrence of losses such as the one in question that will open their eyes to the adoption of a poisonless yet equally efficacious formula for sheep-dipping.

MISCELLANEA.

To the Editor of "The Veterinarian."

Sir,—IN a recent number of your valuable periodical I observe that application has been made to the Hon. East India Company concerning the eligibility for its service of persons not having the diploma of the Royal College of Veterinary Surgeons.

HAVING some intentions of qualifying myself for that service, I am anxious to know the result of the inquiry; as numbers of veterinary surgeons, and many aspirants to the profession, are also interested in the Company's service, its rules and regulations, the publication, in the next number of THE VETERINARIAN, of the reply made to the application, would benefit the profession, and confer a lasting obligation on

Sir,

Your most obedient servant,

GEO. ARMATAGE.

Norfolk Street, Sheffield,
Jan. 22d, 1852.

* * * The "reply" has not reached us, but we will make inquiry concerning it.—ED. VET.

THE PATENT MACHINE HORSE SHOE.

THE application of scientific principles to the making of a horse-shoe may seem to many a superfluous use of great means for a trifling end; but, as poor Richard, says,—“for want of a nail the shoe was lost, for want of a shoe the horse,” &c., and so on to the rider himself being lost. On reflection, every one must admit that the completeness of a horse-shoe is no insignificant matter; and persons who are familiar with the horse, and its various uses, know how frequently this noble animal is lamed, and if not rendered useless, subjected to constant torture by the effects of ill-fitting shoes; as Blundeville, a writer in Queen Elizabeth’s reign, observes, horses “do come to their decay sooner than they should do,” among other causes, “through the unskilfulness of the ferrer.” The horse-shoe has been made by a very primitive method through many ages, with little variation, beyond the suggestions of rude empiricism to meet certain circumstances, or to qualify peculiarities in the horse’s foot; and though individual sagacity and manual dexterity may avoid the more palpable errors, much uncertainty and frequent mischiefs pervade the art of shoeing. It is rarely that so many qualifications are combined in one mind as have been so successfully employed in the invention of the horse-shoe machine, patented by our respected fellow-townsmen, Dr. Hobson, the inventor. Being fond of the horse, and a good judge of its properties, the doctor has not disdained to apply his professional knowledge of human physiology to that of an inferior creature, and by the aid also of mechanical science and ingenuity, has not only devised what was wanted in the formation of a horse-shoe, but has invented the mechanism which should unerringly produce it. We had the pleasure of seeing the machine at work a few days ago, and, without making pretence to technical acquaintance with the subject, we must acknowledge both obvious advantages in the process and great beauty of operation. The iron is in bars rolled in a peculiar manner; they are cut into suitable lengths, and the superfluous parts cut off by machinery, and the ends of each piece rounded. Any harsh edges left by the cutting machine are ground down, and the pieces are then put on a moving rack, which drops them one by one at the mouth of the furnace, and they are carried gradually through the flame and radiating heat of the furnace without touching the coals. By a new movement at the other end of the furnace, the pieces are passed successively to the block or die, where each is bent and stamped by a very beautifully combined action of the machine, and the horse-shoe, perfectly shaped, drops into the trough to be cooled. The nail-holes are afterwards punched in the cold metal; and it is not

necessary again to heat the shoe, so that the hardening effect of hammering (or stamping) is not lost. The advantages of the patent horse-shoe machine, in addition to the economy of labour (for the apparatus for heating and bending would turn out shoes for 150 or 200 horses in an hour), are, that the shoes are formed exactly to a predetermined shape, which can be varied, but always with certainty, to particular requirements. Dr. Hobson insists upon the advantages of a "level tread" for the horse, and the patent shoe is made to that purpose (exceptional cases omitted). It is much lighter than the hand-made shoe, but in no respect inferior in strength; and it is so formed that the nail heads are protected, and by this means, and the support of the "clips," the liability to cast a shoe is diminished. In a paragraph, we cannot attempt a full description of this invention, but it appears to us to be well worthy of public attention, which we invite to it.—*The Leeds Intelligencer*.

ON FIXING AMMONIA IN STABLES.

Sir,—MR. REECE, in his letter, in your paper of to-day, on the above subject, recommends sulphate of lime moistened with diluted sulphuric acid, as an absorbent of ammonia, that volatile gas which affects the vision of, and produces many diseases in, horses. Mr. Reece's remedy may be, and no doubt is, a good one; but it is very improbable that it will be adopted by any non-scientific person (who would find a difficulty in obtaining and applying the ingredients), and as I have found a very cheap and efficacious remedy which can be universally applied, I hope you will give the public the benefit of publishing in your columns the means of obtaining a sweet and wholesome stable, and so prevent future injury to that valuable animal the horse, which it is as much our interest as it is our duty to do.

My remedy is granulated or powdered peat charcoal, which is very cheap, and can be applied by every stable-boy; and such is the affinity between ammoniacal gas and peat charcoal (carbon) that the former, whenever it is anywhere near the latter, is attracted to and retained by it, and thus the serious evil of the dissemination of the poison is entirely eradicated; independent of which, the intermixture forms the most valuable manure, and will amply repay the expense of the trivial alteration which it will be expedient, but not indispensable, to make, by excavating under the centre and end of the stall to a depth of about twelve inches, and partially filling up the excavation with the charcoal (the communication from the centre to the end being by a simple drain), which will entirely absorb and deodorize the gas.

The specific character of the above remedy can easily be proved by placing in the stable, near to one of the drains, a small quantity of charcoal, say two inches in depth, on a square piece of tin of about eighteen inches in size; after an exposure of a few minutes, an analysis would prove that this charcoal had absorbed its own weight of this deleterious gas, and if this intermixture were used in the garden or conservatory, its beneficial effects would be manifest to the most casual observer.

The Times.

THE VETERINARY ART IN AMERICA.

It is the intention of Messrs. Mason and Turner to open a veterinary school, during the ensuing winter, for the reception of students, and to deliver a course of lectures on the Anatomy and Pathology of the Horse, with dissections. Further particulars with respect to this course will be shortly issued.—*Montreal, May, 1851.*

FRACTURE AND DISLOCATION.

ON Tuesday morning, at a little after six o'clock, two gentlemen were riding together in a field near Sherbrooke-street, when one of the horses shied, and in shying came in contact with the other one, both horses falling to the ground with their riders. One of the riders extricated himself from the fallen animal with some difficulty, and on examining his horse, found that the thigh bone of the off hind leg was fractured transversely, about two inches above the hock joint; while, strange to say, the superior pastern joint of the fore-leg on the same side was dislocated, the dislocation having been accomplished with such force that the end of the cannon-bone was forced through the capsular ligament of the joint and the skin, protruding for about five inches, the sesamoid bones remaining attached to the ligaments. The poor brute tried to rise, and several times dug the end of the bone into the turf, groaning frightfully under its agony. Mr. Mason, V. S., being sent for, the horse was immediately destroyed, and the leg cut off. This is a most extraordinary and unusual accident, and the curious in such matters may see the limb at the Veterinary Hospital, in St. Urbain-street, where it has been put into spirits.—*Montreal Courier, June 1851.*

KING'S COLLEGE HOSPITAL.

AT the last meeting of the committee of management of this hospital a letter was read from Mr. W. H. C. Plowden, one of the directors of the East India Company, announcing his inten-

tion of placing at the disposal of that body the appointment of an assistant-surgeon in the Company's service, to be conferred on one of the students of the hospital, who is to be selected for his professional merits, and his correct and gentlemanlike conduct. Such a noble and judicious exercise of patronage reflects credit, not only on Mr. Plowden, but also on the institution which he has thought worthy of his bounty. Were the disposers of the patronage of the East India Company to adopt a course like this more frequently, the result in a few years would be most beneficial to the service, and would exercise a beneficial influence on medical science in India, by introducing into it a number of highly educated young men, selected for the appointments specially for their diligence, industry, and medical attainments.—*Times*.

{*** Would not the same patronage bestowed on veterinary colleges redound to the credit both of them and the East India Company; while such a boon would materially benefit the service of the latter, and the science of the former?

FOX HUNTING.

“BUT, though foreigners cannot understand it, it is a sport which affords enjoyment to all classes of people in this country. In this respect it has a decided advantage over racing. At Newmarket, when races of the greatest interest are run—races on which enormous sums are staked, and for which the best cattle in England are entered—the peasantry who are engaged in agricultural pursuits in the vicinity of the course scarcely think it worth their while to turn their heads from their ploughs and harrows to see how the contest proceeds; but when a fox is out, Hodge, the instant that he is aware of the fact, quits his ploughs and harrows, and all, and away he scampers after the hounds. (*Cheers*) This shews how exhilarating and delightful a sport it must be. But its advantages are numerous and important. It is not that the physical frame of man is invigorated by it, and his intellect made clear and strong; but by means of this noble amusement habits are acquired which fit a man for the creditable discharge of other and more important duties. Depend upon it, no successful fox-hunter was ever a fool. (*Cheers*.) He must not only be a man of sense, but he must have a good eye, a ready hand, a cool head; he must be capable of enduring great fatigue; he must, above all, have great nerve, and an unswerving determination to accomplish the object he has in view, no matter what difficulties and obstacles may present themselves in his way. It is upon these qualities that the national character of Britons is based.”—*Extract from the Chairman's speech at the dinner given to Mr. Conyers, the well-known and respected master of the Essex fox-hounds.*

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THOUGHTS ON BROKEN WIND.

By JOHN W. GLOAG, M.R.C.V.S., 11th Hussars.

[Continued from page 66.]

TREATMENT.—WHAT is to be said under this head? I have never heard of a true case of broken wind (by which I mean one wherein all the symptoms had become fully developed, and had existed for any length of time) to recover; but I have known and heard of many cases of disease bearing the character of broken wind, which came on very suddenly during inflammatory attacks of the chest, from that or other causes, to recover perfectly; shewing that these spurious attacks are purely symptomatic, and that genuine broken wind is a disease of slow growth. From all that has preceded, we may perceive that this disease ends in serious morbid structural changes. How is medicine to repair or to renew altered structure? It is true, surprising changes for better and worse often take place in this complaint, which seem to be sometimes owing to sudden vicissitudes of temperature, at others to peculiar conditions of atmosphere, such as its lightness or density, or states of electricity. I consider that, in the peculiar state of the lungs of a broken-winded horse, the great labour of the abdominal muscles is absolutely necessary to bring about the proper arterialization of the blood; hence, under certain states of atmosphere, when there is less oxygen in a given space, or from, perhaps, some other peculiar changes in its electrical condition which we cannot fathom, the difficulty of effecting the oxygenizing of the blood is greatly increased. If we urge a badly broken-winded horse into exertion, he will drop: he is thrown into a state of asphyxia, in which, if he should die, his blood will be found to be quite black. Indeed, in bad cases, as the disease advances to a fatal termination, we find the lining membrane of the nose and mouth turning to a purple colour, evincing the condition his system is in. Accord-

ing to our present knowledge, nothing can be done to effect a cure, though happily we have it in our power greatly to alleviate the distressing symptoms. I shall briefly consider how this is to be effected, under the heads of *diet, air, medicine, and exercise*.

DIET.—If we suppose the difficulty of breathing to arise from a gorged condition of lung (which is generally the case in any presumed cause of the disease), it is evident that any pressure against the diaphragm will increase the difficulty of breathing. This was the nature of the cause which was first seized upon by our late talented Professor, Coleman, in his ingenious theory to account for the production of emphysema in the lungs of broken-winded horses. Although this morbid appearance has not been found practically to be such a constant attendant cause of the complaint as the learned Professor imagined, yet has the carrying out of his principle proved correct in the treatment of such horses as are diseased; and indeed the practice that was adopted, at the Professor's suggestion in the army, of regulating the giving of food and water in such a manner that a horse should never have to work on a full stomach, has had its advantages in the prevention of broken wind. The palliative treatment of this disease may be said to consist principally in a proper system of dieting. The stomach should always be kept unloaded prior to work. Hay, which appears to have exerted a baneful influence in producing the disease, should be given only in small quantities, and in little at a time; and it should always be of the best quality, and the greatest supply be given at night. It should always be damped. For a middling sized horse, seven pounds are quite sufficient. It may be asked, "Why give hay at all?" to which I can only answer, "Necessity obliges us to do so." It is a fact, I believe, well known in physiology, that concentrated food will not alone support life. The stomach must have a certain quantity or bulk to act on; and were we to substitute some of the straws we should only increase the mischief, since it would be found we must give more straw, in proportion, than the hay, straw containing less nutriment in the ratio of 3 to 1. Whatever manger food is given should be either damped, or contain a portion of bran mash; and it ought to be of the most nutritious description, at the same time that it is of the most readily digestible kind and form, in order that the dung may be kept in a softened state. A manger food, such as is recommended by Mr. Blaine, seems very applicable; which is, one part bran, one part bruised beans, and two parts bruised oats, with the addition of sliced carrots when they can be readily procured, as they seem to act beneficially in preventing the collection of

flatus, which is so distressing to the animal. The quantity of each of these articles I need not state; the proportions would mainly depend on the size of the horse, and the work he had to perform. If carrots were used in any quantity, a proportion of hay could be dispensed with, accordant with the relative nutritious value. The horse ought to be fed at least four times a day, but not to have had any thing to eat for two hours before work. In Ireland I have known bruised whin, the common furze or gorse, to be substituted for hay with apparently very good effects, as it contains considerable nourishment, and horses are very fond of it, and it possesses the advantage of keeping the bowels in a soluble state, and thus prevents the accumulation of gas. The broken-winded horse, like the roarer, is always eager for water; but he should have it sparingly and very often, and only a little at a time, the greatest quantity at evening stable hour, and be debarred from it for some time before his work. If the horse is fed on carrots or any succulent food, he will require less water.

AIR.—In our general treatment of broken-winded horses a liberal supply of the purest air is of the greatest importance. Those who have seen the magical effects sometimes produced merely by the removal of a broken-winded horse from a close stable into an airy loose box can best appreciate this. Our great object in the suffering animal should be to maintain an equable state of temperature, in an atmosphere as pure as possible, all the year round. (An analogous disease in man would probably be beneficially treated by sending the patient to an uniform climate.) We may certainly, by attention, maintain pure air, but we cannot guard against those changes of atmosphere which are indicated by the barometer, such as its lightness and density, or probably its altered electrical condition; and the broken-winded horse feels all these changes. He is a *living barometer*, and suffers from the climate equally with the bronchitic-asthmatic man. One standard fact we may always bear in mind, which is, that the evident embarrassment of the broken-winded horse's existence consists in oxygenizing the blood; and we can at least allow him to breathe pure air, although we cannot apportion it to him in the specific quality suited to his diseased condition.

MEDICAL TREATMENT.—Here, I am again sorry to say, we can only offer palliation. Perfect cure is out of the question. We may effect the most surprising change by a proper system of dieting, with some aid from medicine, but the disease is not overcome, and will surely return. In the principle of dieting it was enforced that the food should always be moistened, and partake, if possible, of the alterative qualities of grass. It is a

question with me, whether food of a dry and stimulating quality, continued in use for a long time, may not have had a great deal to do with the original disease of the stomach. Was ever a case of broken wind known among horses that had never left the grass field? May it not be possible to account for the diseased action set up in the stomach partly in this way? A horse in his natural state feeds wholly on grass, a diet which in itself possesses so little nutriment, that his jaws are obliged to work for his living, and he is consequently eating, for twenty hours out of twenty-four, of an easily soluble food; and all this time the salivary glands are in constant action, mixing their juices with the food, and doubtless performing some wonderful chemical part in the process of digestion and nutrition. But, in the stabled horse, how is it? His food is dry, and of a highly stimulating quality, while the air he breathes is impure. His ration of corn is quickly dispatched, and, instead of twenty hours in which, in a state of nature, the saliva would be pouring into his stomach, the time occupied is perhaps four hours. May not this induce disease in the stomach? Is the salivary liquid of so little use in the digestive process, then, that it can be dispensed with? May we not rather reasonably infer that our dry system of feeding has something to do with disease of stomach, and then become the origin of broken wind? Do we not always find thirst a prominent symptom? May not crib-biting be frequently due to this—namely, a diseased action set up in the stomach, which causes the elimination of gas, and a feeling, perhaps, akin to heart-burn in man? But to return to the subject. There are two symptoms which strike us most forcibly, namely, the state of the breathing, which is apparently spasmodic in its nature, and the wheezing sound usually heard at the chest in expiration, denoting a bronchial membrane secreting a viscid mucus. It appears feasible that we should give relief, if we can act upon either or both of these symptoms. The agents which would have a tendency to relieve the partly spasmodic breathing would be sedatives and opiates, or perhaps the two combined. Digitalis acts surprisingly in some cases in quieting the breathing of a broken-winded horse, and also opium. Camphor also acts partly as a sedative, and also promotes a secretion for the mucous membrane of the lungs, and alters and thins its character.

Still, as we have seen from what has gone before, that the disease is not purely spasmodic, but depends on some morbid structural changes which embarrass the circulation or respiration, and that thus, of necessity, the abdominal muscles are called into greater play, it is quite evident that we cannot expect to do much good by any mode of treatment applied merely to the

quieting of spasmodic action. Again, since the causes of the disease differ, our remedial agents will not act always alike, nor is our knowledge of the nature of the complaint as yet sufficiently developed to enable us to detect clearly, during the life of the animal, from what cause it proceeds.

We shall now consider the next important desideratum in the treatment; namely, relieving the congested state of the bronchial membrane, and thus easing the breathing. In treating affections of the mucous membrane of the lungs in man, expectorants and diaphoretics are very valuable; but these do not avail us much. Such medicines as we call alteratives, and especially mercurial alteratives, seem to answer best. Calomel in small doses keeps up a drain on the system, and seems to act most beneficially in the clearing of the mucous membrane. Small doses of aloes and nitre occasionally are also very useful. After having first cleared out the bowels by small doses of aloes and by enemata, a combination of some of the above remedies, namely, sedative and alterative, seems to be required, and they, perhaps by equalizing the circulation or preventing re-action, act very beneficially. We may combine digitalis and opium, and camphor and calomel, in small proportions, say ʒss each, continued for a time, and then remitted for a time, and again prescribed. I believe that some such treatment is used beneficially in the Edinburgh school. Nitre given in a warm mash occasionally is useful. Articles known as condition powders are also occasionally useful, such as a combination of sulphur, antimony, and nitre. In fact, all those means whereby the conditioning of horses, namely, freeing their body of grossness, and then clearing their breathing, will be found advantageous. We must never forget, however, that medicine is but an adjunct to our other treatment, and that it never will succeed but in concert with that, and that the sooner we can cease giving medicine of any kind the better. Who can doubt the relief to be obtained by such means as I have pointed out (conjointly with exercise, which I shall next speak of), when we daily see the change produced by similar means in roasters and thick winded horses, and even in getting a healthy gross horse into condition? The change in the freedom of the animal's breathing, and in the capabilities of endurance of these animals, is quite wonderful.

My last remarks were applicable to horses capable of doing some fast work; but in cases wherein the respiration is too laborious to allow of this, and which are still required to do as much as they are fit for, a diet partly of grass will be found beneficial, or, if practicable, turning the horse out on a scanty common for a few hours daily. But if the animal has to work, we must not allow him to fill his stomach even with grass.

Carrots or turnips during winter, in lieu of grass, will be found useful.

I have had cases of broken wind of a very aggravated nature, where I have found it necessary to draw blood; and I have thought usually with benefit to the animal, by relieving congestion: being careful only to take away a small quantity, and not repeating the operation unless found beneficial. If the animal have been well fed, and is in fair condition, such treatment may be advantageous; but caution is required in the use of the lancet, as the disease in its own nature is very enfeebling. Turning a badly broken-winded horse out to grass seems, whilst the animal remains in the field, to have a surprising effect in quieting the breathing: but it does no permanent good; for as soon as the animal is taken back to dry food he generally grows worse than he was before. It seems rather paradoxical, how a broken-winded horse turned to grass should experience relief in his breathing; but such is the case, and can only be accounted for by the lax state in which the bowels are kept; thus materially diminishing the accumulation of flatus, which distends the abdomen. Although this is true with respect to the broken-winded horse, yet is the reverse the fact in horses about to become so; for I have noticed that, during summer, when we are usually in the habit of giving troop horses green forage in lieu of hay, or mixed with the hay, cases of broken-wind are more likely to occur; and I can only account for this by distention of the stomach, pressing upon a weakened lung, and so producing morbid changes: such occurrences being usually confined to horses which have shewn premonitory symptoms of broken wind, such as horses with chronic cough, or roarers, crib-biters, &c., so that we never can forget our late esteemed Professor Coleman's first principles.

I have known broken-winded horses greatly relieved by giving to them a certain quantity of linseed oil, and then shortly afterwards making the animal to exert himself freely by trotting, cantering, or whatever exertion he is fit for. This relief is only temporary, and is, I believe, what a certain class of knavish horse-dealers call "shotting a horse for sale." It certainly has considerable effect in freeing the breathing, if repeated for a few days; and I hardly know how to account for it. Perhaps it is by absorption or neutralization of the gas, since I am aware that common hog's lard melted will produce a surprising effect on horses or cattle, and it may act in a similar manner. The exercise, however, that is ordered to invariably follow the giving of the oil has much to do with it, by getting rid of the collected flatus, by which the animal finds himself temporarily relieved.

EXERCISE.—However important the consideration of diet,

air, and medicine, are to the broken-winded horse, exercise is no less so. Without regular constant exercise, all means for ameliorating the condition of the unfortunate animal will be of no avail. The broken-winded horse should not remain idle a single day. Our medical means will not avail us much in the class of expectorants or diaphoretics, and therefore we must fall back on exercise; and who that has experienced the relief the oppressed mucous membranes have sustained by the bursting out of perspiration under immoderate exertion in immediate relief to the oppressed breathing can doubt its efficacy in this case? I hardly need name the sense of buoyancy and freedom experienced after a short amount of training. We know the effect of remaining in the stable during frost to hunters, especially to roarers or thick-winded horses: how they go back in their wind and capabilities of endurance, and tell their own tales directly. By enforcing the necessity of exercise to the broken-winded horse, I would not have it inferred that his powers of endurance should be over-taxed; but, short of that, he should be in the open air, at some kind of work, as much as possible, and if he can only be made to sweat occasionally, so much the better. This state of things can only be brought about gradually; but it is really astonishing how much work the diseased animal can be rendered capable of performing by a rigid system of training. I have often seen horses go to field-days, which at first seemed scarcely able to carry their riders, though after a steady continuance at work, and never being allowed to remain idle, they have become very serviceable, their symptoms of broken-wind having experienced great relief. Again, in coaching-stables, if a horse in a slow team is found to be "going in his wind," it is not unusual to put him to a faster coach, doing shorter stages, with decided benefit. And besides, if we think of it, broken-wind is not a disease nearly so incidental to fast-worked horses as to the slow-moving and pampered animal.

I must apologise for the length to which this contribution has run. When commenced, as my introductory letter will shew, I only intended making a few remarks. The subject, however, has proved inviting to me to write a great deal more than I had anticipated. I might have finished by a *resumé* of the theories broached; but it would take up too much space, and in the absence of more certain knowledge on this difficult subject, I think it prudent to come to no settled conclusions.

TRANSCRIPTION OF SOME CASES OCCURRING TO,
AND NOTED BY, MR. CHARLES HUNTING.

OPEN JOINT.

A GREY gelding, five years old, the property of the owners of Trindon Grange Colliery, in the county of Durham, was used habitually in the pit, and whilst at work on the 3d November, 1851, he ran his head with considerable violence against the sharp edge of a projecting stone. This inflicted a fracture on the inferior and outer part of the orbital process of the frontal bone, on the left side; the wound extending over the temporo-maxillary articulation. I did not see the case until twenty hours after the accident had occurred.

On first seeing the animal, I observed that he suffered little pain—the pulse was but forty in number, and normal in character—the breathing natural, and the appetite not in the least impaired. The wound was uneven, and opposite the fracture, which was comminuted, and at the inferior part of the gash, was some loose bone. The amount of tumefaction and coagulated blood around the wound being considerable, I ordered the parts to be fomented with warm water, not suspecting at the time that the injury was deep enough to have opened the temporo-maxillary articulation, especially as no synovia escaped. There were other slight wounds about the body.

I prescribed a cathartic, and rigorous diet, consisting in mashes.

November 6th.—To-day the animal refuses his hay, and his diet consists in a small quantity of corn, and bran mashes. The pulse is forty-six, and somewhat wiry. The tumefaction around the wound is increased, and a discharge of glutinous colourless fluid, coagulating as it trickles from the orifice over the maxillary articulations, is apparent. This is evidently the modified secretion from the inflamed synovial membrane of the joint, inasmuch as it increases considerably when mastication is going on.

The orifice giving exit to this somewhat altered synovia being small, I decided on plugging it by the means most ready at hand, viz., a red hot iron, which very successfully produced an artificial eschar.

I gave orders that the animal's head should be confined, and that no food should be given him for the next forty hours.

Saturday the 8th.—The horse is progressing very favourably; pulse forty, and of natural beat. The wound looks healthy, and

the scab is adhering very firmly, much to my satisfaction. I requested that my patient's diet should consist simply in a few boiled oats with some linseed twice daily.

Tuesday the 11th.—The horse has refused his food for the last twenty-one hours; his pulse is weak, small, and 42 in number; his ears and extremities are cold. The wound looks healthy, and the tumefaction is about the same; but the eschar has dropped off, and synovia has been flowing since yesterday. I now applied pledgets of cotton wool saturated with creosote, and between them interposed a powder composed of alum, myrrh, and ferr. sulph. The whole being secured with a bandage, no other treatment was adopted till the 15th, when the flow of synovia, though diminished somewhat, was not completely arrested. To-day the animal has had rigors for several hours, and the pulse is 56 and weak. He refuses any food, so that linseed and oatmeal gruel is administered in the form of draught twice a-day. Notwithstanding this, he is rapidly emaciating.

I now determined on trying the effects of collodion, but could not to-day, inasmuch as I had none by me, nor was I provided with the agents by which some could have readily been made.

Monday, 17th.—Having by this time been enabled to procure some collodion, I shaved the hair around the wound, where I then applied some of the solution, covering the parts, subsequently, with a layer of cotton wool also partially saturated with collodion. The wool being made into fine layers, I covered the wound with four alternate layers of collodion and cotton wool, after which I covered the whole with a larger pledget of the latter, and fastened it with a bandage; the horse was kept thus for a week, being fed on linseed and oatmeal gruel. During this period the animal's appetite was in no way improved; and on the 22d I removed the bandage, and found the cotton wool still adherent, and the discharge arrested; I therefore did not disturb the apparatus, but replaced the bandage as before. The horse is in a most emaciated condition, his pulse being only 36 in number, but excessively weak, so as to be scarcely perceptible at the jaw.

Thursday, 27th.—The horse's appetite is a little improved; his pulse is 36. The bandage being removed, the collodion dressing came away, exposing a beautifully healed wound. The surrounding parts are enlarged, indurated, and painful.

Friday, Dec. 5th.—The animal's health, as well as the local enlargement, having remained in *statu quo* until now, I decided on applying a strong blister of the oleum lyttæ to the whole tumefied part. For two days after this much pain was evinced, and the appetite was totally suspended.

Monday, 8th.—The horse is much livelier, his pulse normal, and he eats better than he has done since the third day after the accident.

Saturday, 13th.—There is much improvement generally in the state of my patient, although he refuses hay to a great extent. He has been put to light work. From this day he improved rapidly in condition; he worked well, but ate little hay for some time afterwards. The swelling did not entirely disappear, although the pain on pressure continued, but very slightly.

LACERATED WOUNDS OF THE HEAD, WITH ABSCESS IN THE PAROTID REGION.

On the 28th October 1851, a brown gelding, nine years old, used in the South Hetton Coal Pit, refused to progress, and was, in consequence, rather roughly handled. He became restive, and, on being loosened from the tubs, ran away through the more capacious subterranean viaducts into those only adapted for ponies, which are not more than four feet high. Here he completely stuck fast, and could only be extricated by the stone and coal around him being cut away. On the horse being removed to the stable, I found two very extensive lacerations on the head; the one exposing almost the entire surface of the parietal bones right up to the occiput; the other one on the right side extending from the zygomatic ridge downwards, laying bare two-thirds of the external masseter muscle: this was a superficial wound, except below the zygomatic ridge, where the bone was exposed.

Although the animal appeared dull, and his pulse was 52, still his appetite continued as usual. Thus, besides simply dressing the wound, I prescribed an appropriate aperient.

November 13th.—It would be here useless to detail the daily progress of the case, as the wounds cicatrized very favourably, and I had intended sending him to work to-day, when the horse-keeper informed me that the horse's neck was much swollen, and very itchy. I dealt slightly with the man's intelligence, inasmuch as when I last saw the horse, about thirty hours since, he was perfectly well.

Friday, 14th.—I descended the pit this morning, and found the horse with a neck swollen to a most extraordinary extent, and projecting from the right side, as large again as a man's hat: it filled up the whole submaxillary space, and projected as far back as the middle of the neck. The horse had so effectually rubbed this irritable tumour as to excoriate the most prominent parts. It was hard, hot, and not very painful, if firmly

pressed on; but the itching was so excessive as to necessitate the animal being fixed in one position.

The constitutional disturbance was slight, inasmuch as the pulse was 48, and the number of respirations 12. I was much astonished at this, as greater obstruction than was really afforded to the respiratory function might have been expected from so large a tumour so peculiarly situated.

I had the animal drawn out of the pit, and ordered a linseed meal poultice to be applied to the throat, as also that a cathartic should be administered.

15th November.—The tumour is generally softer, and more elastic, although not fluctuating, and not so prurient as at first. The purgative has caused the bowels to respond, so that I simply requested that the cataplasms should be continued.

16th.—The tumour is decidedly softer, and appears to be inclined to point. Poultices to be continued.

17th.—The very extensive abscess has discharged its contents during the night. The opening, apparently the result of rather an extensive slough, extends from within an inch of the base of the occiput to the very inferior part of the tumour. The gap produced is appalling, being seven and a half inches wide at the inferior part, whilst in the rest of its extent it is between three and five inches wide, except at the very superior part, where the fissure naturally opens out from a point.

The poultice contained much discharged pus, with two conglomerate masses about the size of a pullet's egg, which appear, on examination by the naked eye, to be portions of the parotid gland.

The bifurcatory jugular vein was beautifully exposed, inasmuch as all the tissues surrounding it had been destroyed by suppuration.

No other expedient was here adopted than that of cleansing the wound with tepid water, and wrapping the throat up in flannel.

18th.—The discharge from the aperture is thin and watery, apparently issuing from the parotid gland; but whilst on gently saturating a sponge with the secretion, and then squeezing it, I could collect considerable quantities, still there appeared no increase during the process of mastication.

As the exposed surfaces were pale and indolent, I had them dressed twice a-day with a solution of sulphate of zinc.

21st.—The glands cease to emit their modified secretion, and the wound is healing with a rapidity almost proportionate to the production of the solution of continuity.

8th December.—The healing process has so rapidly gone on, that nothing but the extensive cicatrix remains to be seen.

HORSESHOES AND HORSESHOEING IN CANADA.

THE following is an extract from the letter of a veterinary surgeon of the army, who has spent several years in the country :—

“ With regard to American horseshoes, I am not aware of any particularity of construction, with the exception of those intended for wear during the winter months. On the setting in of winter in Lower Canada, which sometimes takes place as early as October, the summer shoes, which are of the ordinary description, are taken off, to be replaced by the winter shoes, which are made with sharp triangular toe-pieces, composed of steel, about three-quarters of an inch long, having both heels turned up, pointed and sharpened, and the calkings, both in the fore and hind shoes, an inch long. And this is the shoe in ordinary use throughout the country. In shoeing the regimental horses, I used to have the inside calkings made blunt instead of sharp, by which alteration serious bruises were prevented.

“ The growth of horn during the winter months is so slow in this cold country that, unless it were for the purpose of sharpening the toe-pieces or calkings, the shoes on the feet would not require to be removed oftener than once in two months, and even then horses' hoofs would exhibit but little spare horn, supposing there had been the usual steady duration of frosty weather the while; for the hoof becomes so dry, and hard, and inelastic, that, at such seasons, sandcracks are by no means of infrequent occurrence. One set of shoes will last the whole winter, all that is necessary being their removal from time to time, in order to fresh sharpen the toe-pieces and heels of them.

“ I have seen a variety of frost shoes fabricated according to the notions or fancies of individuals; but they all of them proved objectionable in some respects, the majority from rendering the horse insecure upon his feet.”

DEATH FROM INTERNAL HEMORRHAGE.

BY F. COTTERELL, V.S., Canterbury.

ON the evening of the 7th January last, I was requested to attend a pony belonging to a gentleman living about six miles from this town. I found the patient, a pony, aged twenty, to be the same that I had attended a short time previously for

laminitis ensuing on pneumonia. It had not fed all the day, and had shewed occasional griping pains, by rolling over and supporting itself upon its back against the side of the stall.

7 P.M.—Standing listless; pulse scarcely perceptible at the jaw; respiration quick and laborious; membranes pale; extremities possessing a deathly coldness: in fact, all the symptoms of approaching dissolution. It had passed, *per anum*, a quantity of coagulated blood, with a very offensive smell. I told the owner I could do nothing for it: he wished me, however, to try. So I gave spts. æther. nit. ℥j, pulv. opii ℥j, aloës Barb. ℥iv; also clysters of warm water, which brought away more blood.

8 P.M.—The pony had fallen down, and was making ineffectual efforts to support itself upon its back. Pulv. opii ℥j, aquæ ℥iv.

Left pulv. opii ℥j to be given at ten o'clock. The pony, however, died about half-past nine.

POST-MORTEM, *next morning*.—On dividing the skin along the linea alba, a quantity of foetid gas escaped from the cellular tissue. The perinæum was in a state of decomposition, and the abdominal muscles were pale and easily torn.

The mucous coat of the stomach was studded with spots of ecchymosis; the duodenum, jejunum, ileum, and cæcum, were healthy, as well as the first flexure of the double colon. The remainder of the intestine was filled with black coagulated blood, and blood was extravasated under the mucous coat, to the extent of twelve inches in diameter, and at least two in thickness, and the membrane was burst in several places; the whole of the colon posterior to the rupture and the rectum were intensely inflamed, and would not bear the slightest touch.

CASE OF SOFTENING AND RUPTURE OF THE LIVER.

By JOHN PARADISE, M.R.C.V.S.

To the Editor of "The Veterinarian."

Dear Sir,—If the following case should be deemed worthy of insertion in your valuable Journal, it is quite at your service.
Your's obediently.

THE subject was a bay gelding, the property of William Phelps, Esq., of this town, which I was requested to attend on the afternoon of the 29th of January last. He is 18 years of age; had been in the possession of his owner for 11 years; had been regularly hunted up to the 20th of January, and had

always been doing his work well : being, in fact, the favourite of the stable. On the 22d ult., two days after he was last hunted, he became lame, while out exercising, on the off fore leg, without any apparent cause. On examination by the groom, when returned to the stables, he found a swelling midway between the knee and elbow-joints. He administered a dose of physic, of $\mathfrak{z}\text{iv}$ of aloes; fomentation; and poulticed the part. The swelling subsided, and the lameness became less. On the evening of the 28th he shewed symptoms of colic; for which he had given him tincture opii $\mathfrak{z}\text{ij}$; spirit. æther. nitrici $\mathfrak{z}\text{ij}$. He presently became easy, and was left for the night. The following morning he had not eaten his mash, nor any of his hay; but appeared very dull, and had not passed any fæces. The groom now considered the horse was ill, and would have sent for advice; but the owner being from home, and expected hourly, he thought he would wait until he returned. At 4 P.M. he arrived home, and I was immediately requested to attend, when I found the following

Symptoms.—Anxious countenance; standing with his head hanging pendulous in the corner; pulse 85, weak, and easily compressed; respiration but slightly accelerated; ears, face, and extremities deathly cold; conjunctiva bloodless; nasal lining quite pale; buccal membrane blanched, and of a yellow tinge; breath offensive; and on pressing the right side he evinced pain. His bowels have not acted since the previous evening. On elevating the head he became distressed; does not like to be moved; sighed twice. The esquire being present, my opinion was immediately inquired for. Taking the symptoms, age, and habits of the horse into consideration, I gave the following

Prognosis.—Unfavourable, considering him to have chronic disease of his liver; of which I feared rupture to a slight extent had taken place; and I added, it was possible he might suddenly fall and die.

Treatment, &c.—Gave aloës Barb. $\mathfrak{z}\text{ij}$; hydrarg. chlor. $\mathfrak{z}\text{ij}$. Found the rectum empty; and, on examining the same as far as I could, he shewed symptoms of uneasiness. Gave enemata of tepid water, with ol. terebinthinæ $\mathfrak{z}\text{ij}$. This caused him to strain violently; but the enema only was returned. He sighed three times: ten minutes after he passed seven or eight pieces of dung, which were covered with mucus, and of a clay colour when divided. He staled freely, the urine being dark coloured. Apply friction to the legs, and double bandages. Keep rugs dipped in cold water to the right side. I let him remain perfectly quiet until 9, P.M., then tried to give Oijj gruel; but only part could be given, as he would not have his head elevated. Sighs occasionally. Surface of body warm, inclined indeed to

sweat; but extremities cold. He passed some more fæces of a similar character to the first, about 10, P.M., then laid down upon his right side, remaining perfectly quiet, except altering the position of his head, sometimes stretching it out at full length, but generally keeping it on his side.

30th, about 1, A.M.—Heard a loud thumping, and immediately repaired to his box, and found him just risen, having kicked violently in the attempt. Gets with his head in the corner, and keeps shifting backwards, lifting first one hind leg, then the other. Pulse 90, and weak; clammy perspiration under his rugs; one ear warm.

4, A.M.—Much the same. Remove the bandages from his hind legs, which are one cause of his constantly shifting them. Gave a small quantity of chilled water, and administered the 31 ~~31~~ of opium left him.

9, A.M.—Has passed some more fæces, but not covered with mucus as the previous were. Extremities warmer; sighs occasionally; mucous membranes of a yellow cast; breath very offensive; pulse 90, somewhat fuller; let him have some gruel, which he drank slowly, and at intervals.

12, P.M.—Seems more cheerful: give opii, hydrarg. chlo. ana 3ss. Repeated enemata; to be kept perfectly quiet.

8, P.M.—Pulse 80; uses his hind legs occasionally. Let him have gruel: he drank slowly. One hour after repeated medicine: consider him better.

31st; 9, A.M.—When I looked at him standing in his box, his appearance told me he was better. Pulse 70, and of a more natural feel; mucous membranes not so pallid, but the yellow tinge is present. Eats a little hay. Repeated medicine: ordered him to be left perfectly quiet.

10, P.M.—Pulse 65, but in nowise strong; respiration nearly normal. His owner is pleased with his amended appearance. Repeat medicine.

Feb. 1.—On entering his box this morning, at nine o'clock, one hurried glance was sufficient, without further examination, to inform me that he had relapsed. Particularly anxious countenance; visible mucous membranes are of a dingy yellow colour; pulse 100, small, and very weak; respiration but little disturbed; moves with reluctance. On taking off his clothes I observed tremors of the muscles of the left side, and the shoulder to some extent. I had noticed throughout the case slight movements of the skin of the trunk and of the lower jaw. Pressure on any part of his abdomen gives him pain.

I now considered the case quite hopeless, and that further treatment would avail nothing. The owner then wished him to

be destroyed; but if he continued in no great pain, let him live till the morrow, if he will.

Monday, Feb. 2; 9, A.M.—Evidently worse; pulse 106; respiration normal in character, but ten per minute; membranes markedly yellow; breath not now offensive; twitchings of the muscles of the right side and shoulder, so that when he raises his right foot from the ground the scapula and humerus are drawn upwards and backwards involuntarily, as though the trapezius, latissimus dorsi and pectoralis major muscles were acting simultaneously. The groom said he had just staled a great quantity of dark-coloured or black urine.

I was surprised to see how well the old horse walked to his last resting-place, a distance of two hundred yards.

SECTIO CADAVERIS.—Immediately the abdomen was opened, two gallons of dark blood escaped, and exposed to view the liver: it was enlarged. The inferior border of its right lobe was ruptured for twelve inches in length, having the appearance of venous coagula, with shreds of the enveloping membrane lying across it. The finger could be easily drawn through the lacerated substance; only a small portion of the left lobe exhibiting a healthy structure. The spleen was slightly enlarged, and dark in colour. The stomach and intestines were perfectly healthy internally; their peritoneal covering was reddened throughout, no doubt from the presence of the fluid blood. The kidneys were darker than natural, but contained no fluid in their pelvis. The bladder contained about twelve ounces of nearly black fluid. On opening the chest, the pleura was found of a yellow cast, but the lungs in structure were as healthy as any I ever saw. The pericardial sac contained about two ounces of green coloured serum. The heart was somewhat flabby.

In the swelling in the right leg I discovered a thorn, three-quarters of an inch in length, embedded in the areolar tissue, between that and the flexor muscle of the arm.

Remarks.—I think we may fairly conclude, that rupture of the substance of the liver had taken place when I first saw the horse, and that the capsule had accommodated itself to the lacerated parts. Remission of the symptoms, in consequence, took place, and continued up to the Saturday night or early on Sunday morning; when the capsule gave way, and passive hemorrhage took place into the peritoneal cavity, which continued up to the time of his being destroyed. The fluid found in the pericardial sac is easily accounted for by the inordinate action of the heart for the four or five days previous, the state of the liver being the exciting cause.

The lameness of the right leg was not sympathetic with the

liver, as I had supposed; but owing to the presence of the thorn as I have described.

This case has proved somewhat lengthy in detail, but the symptoms are just as I observed, and made a memorandum of at the time. The treatment might have been different, but there was not a shadow of a chance under any circumstance.

Dursley, Feb. 6th, 1852.

* * To a case so practically interesting we gladly give insertion, portraying so faithfully and naturally as it does symptoms indicative no less of its fatal tendency than of the seat and nature of the disease it turned out, as prognosticated, to owe its origin to.—ED. VET.

FOUR CALVES (ABORTED) AT A BIRTH.

I SOLD an in-calf heifer, in the summer of 1850, to Mr. Brown, a dairyman, 29, Spring-street, Paddington. On calling there this week, I found she had recently been delivered of *four calves*, supposed to be fifteen or sixteen weeks old. They are very small, but I believe all perfect, and may be inspected by any veterinary surgeon. I observe, Mr. Barlow mentions, in his communication to the first number of the Royal Agricultural Society's Journal of last year, that a cow had been delivered of nine calves in three years; but I do not find an instance of four calves being dropped at once.

From MR. WM. BROWN.

Tring,
January 28, 1852.

A LETTER FROM MR. GLOAG, ON THE SUBJECT OF MR. TURNER'S LETTER.

To the Editor of "The Veterinarian."

Sir,—IN the last number of your journal, a letter appeared from Mr. James Turner, on the subject of the review of M. Bouley's work "On the Foot of the Horse," in which he took occasion to remark, that he considered some experiments which lately appeared in THE VETERINARIAN, on the expansion of the foot, "could not be considered as a test upon a subject which involves an investigation of the greatest nicety." I have the

greatest respect for Mr. Turner as a gentleman of the highest talents and standing in the veterinary profession, and it is for this very reason that I cannot tacitly pass over his observation, but feel obliged to step forward in maintenance of my ground. Before Mr. Turner had made this remark, I think it would have only been fair towards me for him to have shewn in what respect the nature of these experiments on the dead foot militated against, or were in antagonism to, the natural action of the living foot; else, if this be not done, he surely cannot justly find fault with me for greatly increasing the sustained force or weight, which we naturally must expect would produce increased results of expansion. Mr. Turner also states, that these experiments were performed altogether on the *dead* foot. Here he is in error, as many of them were performed on the living foot, and the intention of the experiments on the dead foot was the more fully to prove the correctness of those observations which I had previously made, by subjecting it to greater power and pressure, as also by enabling me carefully to observe the disposition and changes of the internal parts of the foot, whilst sustaining a weight, as near as I could make it, analogous to nature, and also when that weight was greatly increased. If such an inquiry is not legitimate, I must then bow to Mr. Turner's decision. I should not have noticed his remarks, only that my silence would probably be construed into assent, and might, from the high standing of that gentleman, deter other members of the veterinary profession from a similar inquiry.

Mr. Turner goes on to state, that there is one grand physiological fact, first demonstrated by Professor Coleman, namely, that the laminae are in themselves, by their attachments, able to sustain the weight of the animal, as shewn in the case quoted of a mare affected with canker in her hind feet. I know not whether he intends this remark to apply in any way to my experiments, though, from the reading of his paper, I can only draw that inference; but how, or in what direction, the force of the blow falls, I am at a loss to know, since it has always been with me a recognised undisputed fact, and I know of nothing that I ever said or wrote which can cause a contrary inference to be drawn. In an inquiry such as the one in which I have been engaged, and which I hope will ultimately lead others to a more thorough searching investigation of the matter, facts positively established by experiment can alone be received. If every one were content to follow the long-beaten track, no discoveries would be made; and, for my part, I shall feel quite contented if I have only said enough to set people on the *qui vive*, and cause them thoroughly to investigate this highly important subject.

I shall close this letter by merely adverting to one of the many points which I hold up to view, and hope those who take any interest in the matter will fairly and impartially consider it; and he who can answer it satisfactorily deserves the thanks of the profession. It is this. On looking at a horse's foot which has been shod for some time, for which the heels of the shoe have been made wider than the heels of the foot, and consequently project a little on each side, I ask, did any of my friends, even in a solitary instance, ever see the slightest brightening on the foot surface of the shoe, at the heels, *beyond* the exact resting-place of the foot? I have never been able to recognise such brightening myself, but, on the contrary, have noticed that the line of rust corresponds closely with the sides of the foot, up to the very heels. I now take this shoe off, and with a certain conformation of horse, observe that where the heels rested the shoe is as bright as a mirror, nay, even perhaps deeply indented; but that the line which separated the brightened portions from the external rusted parts is traced with mathematical precision. To what does all this lead? Can we possibly have a closer experiment? Surely, some very sharp pair of eyes would be clever enough sometimes to detect the expansion. Can it, indeed, be so trifling as thus to elude our search? for, if so, the inquiry after it appears a waste of time. But how comes the brightening where the shoe rested? No one, surely, will assert that cold iron could become bright without friction; and if this produced it where the heels rested, of course it would do so on the part external to the foot in its presumed alternate expansion and contraction. If my ideas about the slightly yielding backward motion of the foot are incorrect, I would like to know what kind of position the expansionists would find themselves in; for if we cannot find any brightening of the shoe *external* to where the foot rested, there is only one other way to account for this phenomenon, namely, by the *contraction* of the foot, at its lower circumference at the heels, every time it comes to the ground. Now, I am not prepared to admit this; but I leave the solution in the hands of those opposed to me in opinion, and the proper explanation of it will solve the whole mystery of the elasticity of the foot. I only ask one question. How does the fact of an indentation taking place in the heels of the shoe, where the foot rested, accord with the ideas of lateral expansion and contraction?

I am, Sir,

Your obedient Servant,

JOHN WILLIAM GLOAG.

Nottingham, February 9th, 1852.

THE VESICULAR EPIZOOTIC AMONG CATTLE.

By J. TOMBS, M.R.C.V.S., Stratford-on-Avon.

THE Vesicular Epizootic broke out amongst some cows in this neighbourhood the beginning of May, and continued until October; it then gradually disappeared, and since that time I have not heard of a solitary case. It was at its full height in June and July. Herefordshire cattle were more violently attacked than short-horns. A herd of the former were seized in the early part of June, and placed under my care. A description of the symptoms, treatment, and termination of the same, will render it unnecessary to record other cases that came under my observation.

The milch cows were more severely affected than others.

THE SYMPTOMS were, increased pulsation—copious discharge of saliva from the mouth—respiration disturbed. These symptoms continued for two or three days, when a tremendous inflammation of the integuments and cellular tissues set in, around the coronets, at the heels, and between the hoofs, causing exceeding lameness and excruciating pain. The swelling quickly extended to the fetlocks. The poor beasts lay down the greater portion of their time,—panted, and perspired profusely, with occasional deep groaning. At this stage of the disease the mouth improved. When made to get up, they could hardly walk, and soon lay down again. The beating of the heart could be distinctly heard several yards off. In some all four feet were affected; in others the fore feet, others the hind feet, and in some one fore foot. Suppuration took place in the integumentary and cellular membranes five or six days subsequently to the original attack, which process afforded great relief. In the interim they became emaciated, and lost their milk. In a day or two after, extensive sloughing supervened of the integuments of the coronets and heels, and between the hoofs, leaving the pedal and coronary bones bare, with deep sinuses. The putrid parts while sloughing emitted an unbearable stench. Granulations of new flesh soon formed, which became prominent and luxuriant, forcing the hoofs wide apart. At this period of the complaint the urgent and painful symptoms considerably lessened; the animals could then hobble out of the yard into a grass-field close by, where they were prior to the attack. The milk, flesh, and strength, began to return, and the lameness slowly diminished, as the thickening of the integuments and cellular membrane became absorbed. New hoofs formed, which

in some grew irregularly, and caused great tenderness for some length of time.

THE TREATMENT was simple : consisting of local blood-letting, laxatives, and febrifuges; linseed-meal gruel, and linseed-meal poultices to the legs and feet, until suppuration took place ; and then digestive unguents were used to the sores alternately with disinfectants. When granulations first formed, mild caustics ; and, as they increased in size, potent caustics were resorted to. After the enormous masses of flesh were subdued, tar ointment was applied to the feet. Two cows in the herd were attacked with what is commonly called pleuro-pneumonia, in July. One recovered from moderate bleeding, laxatives, and febrifuges, and stimulating applications to the thorax ; the other, being old, was left to her fate, and died from hydrothorax. There being great analogy between the two diseases, it strikes me forcibly that they are near akin, and may ultimately prove to be one and the same disease, although they have hitherto been considered essentially different diseases.

The air-passages, in both, are invariably affected ; not so the lungs, I admit ; for when they are, the symptoms are deep grunting, and the mouth seldom affected. Moreover, the lung disease requires a more active treatment. And, as I believe there is sub-acute inflammation of these organs at the onset, moderate bleeding claims our first attention, to be repeated if the pulse justifies such a procedure, followed by the exhibition of diffusible stimulants, laxatives, and sedatives. If no improvement is perceptible in a few hours after bleeding, I insert a piece of veratrum nig. in the dewlap ; the propriety of which some practitioners doubt, but I do not. Put setons in the sides, and apply the actual cautery to the whole exterior region of the thorax, where it can be reached ; afterwards apply ung. lyttæ. to the cauterized parts, which soon causes great inflammatory swelling and effusion, thereby preventing, in some measure, hydrothorax. When the bowels are slightly acted upon, I give hyd. potassæ et. nit. potassæ ; and these I succeed by diuretics and tonics. I have more faith in the actual cautery extensively applied, cruel though it be, than in the whole catalogue of nostrums ever prescribed by veterinary amateurs, or jumbled together by cow-leeches. In conclusion, I beg to observe, that my experience, although extensive for many years, is not sufficiently conclusive to warrant me in making a broad assertion, that the diseases I have alluded to are *one and the same* ; but as they are evidently nearly related, I would earnestly entreat my professional brethren to search deeply into this interesting subject ; and I would also advise them, with a view to the furtherance of veterinary science, should an epidemic of the

same or any another kind occur, to observe particularly whether the animals are in sheds or yards, or in open fields. If in the former, whether sanitary regulations are adopted, such as cleanliness, ventilation, and drainage; if in fields, whether they are large or small, open, with hedges cut and trees lopped; or whether the inclosures are small with hedges high; if the soil is well drained; whether the situation is on an eminence, or is flat and low; and last, but not least, to inquire the previous prevailing point of the wind.

* * * The Editor warmly responds to his friend's good wishes.

CASES BY MR. THOMAS WELLS.

To the Editor of "The Veterinarian."

Sir,—IN accordance with a promise made some time ago, I send you two or three practical cases for insertion in your next month's periodical, should you deem them worthy of notice, and I can but express regret that my leisure does not oftener afford me an opportunity of so doing. I feel perfectly assured, that if, as a body, we acted more on the "quid pro quo" principle, the pages of THE VETERINARIAN would record many a valuable case now totally lost to the veterinary world—excepting, of course, to him to whom it may happen to occur*; whereby we should add to the general stock of information, so useful, and so anxiously sought after by practitioners at large, nothing, in my opinion, being of so much real benefit to them as well recorded practical cases. Well do I remember the heading of the first article sent by a talented army veterinary surgeon, now no more (the late Mr. Castley, 12th Lancers), to THE VETERINARIAN, many years ago. It contains so much good sense, that you will pardon me for repeating it here. "If," says he, "every one would write as much as he knows," and "only what he knows," we should advance in the path of improvement with a firm and united step. This is a good observation to keep in mind, perhaps, at all times, but more especially when we have to deal with practical facts. And then he goes on to say—"And let every one tell his story in his own way." For my part, I must confess, I had rather hear a man speak plain good sense, than see him ever aiming at fine words and high-sounding phrases, "like little wanton boys that swim on bladders." Let us hope, Mr. Editor, that this advice of the late

* And after some few years, lost to him as well; since we all know how lapse of time insensibly wears impressions off the mind by rendering them fainter and fainter, until, at length, they elude all useful recollection.—ED. VET.

Mr. Castley's will be borne in mind by the rising members of the profession; and they may rest assured that any efforts made by them for the purpose of carrying out such excellent views will be duly appreciated by their professional brethren. Besides which, it will afford pleasant subject matter to reflect upon as they advance in years and practice, and fall into the "sear and yellow leaf" of life.

Perhaps, when our good days no longer last,
The mind runs backward, and enjoys the past.

I remain, Mr. Editor,

Ever yours, &c. &c.

Castle Meadows, Norwich,
February 1852.

HÆMORRHOIDS (OR PILES) IN THE HORSE.

On the evening of March 13, 1851, I was summoned hastily to attend a brown carriage mare belonging to an employer about a mile distant from Norwich, which was reported to have something "bloody" hanging out of her rectum. The coachman who came said it had made its appearance two or three times during the day after dunging, but had always returned again until just before he left home, when a portion of it was left out, and the mare became very uneasy. On my arrival, I found, as reported, the mare in pain, indicated by a peculiar switching or lashing of the tail and stamping of the hind feet; but she had not lain down, although she had made several attempts to do so. It first struck me as being a case of *prolapsus ani*, but, on examination, it proved to be a true case of piles. The tumour protruding was about the size of a duck's egg, presenting precisely the appearance of a pilous grape in the human subject, only, of course, much larger. I had some difficulty in returning it, in consequence of the powerful action of the sphincter ani, which, no doubt, accounted for the pain; but having accomplished it, the mare became easy, and continued so for some little time. I thought it right, however, to have her removed to my infirmary, as I anticipated a return of the tumour when she again dunged; in which I was not deceived, since, on her arrival at my stable, I found it out again. On making a more minute examination, I discovered smaller tumours round and about the larger one, the latter, however, being the only one that protruded. The mare being naturally of an irritable temperament, and consequently dunging more frequently than one less so would have done, induced me to have a careful assistant remain up with her during the night, for the purpose of returning the tumour whenever it made its re-appear-

ance, which it invariably was said to do after each evacuation, pain being constantly present at such time.

Reflecting on the case next morning, and observing considerable mischief was being done by the necessary manipulation, I foresaw I should have a very troublesome case, unless I could hit upon some plan of dilating the sphincter, so as to allow of a return of the tumour without so much handling of it. This I accomplished in the following manner:—I had the mare placed in a narrow stall, the back part of which was well bedded with litter, so that in standing her hind quarters were elevated six or eight inches higher than the fore ones. I then procured a pair of glove-sticks, such as glovers use for opening the fingers of gloves, and, having dipped their ends in oil, gently introduced them about an inch or an inch and a half into the rectum, underneath the tumour, letting it, in fact, rest upon them. In this way, by pressing the handles, dilatation took place, and the tumour receded with little or no difficulty. This treatment I persevered in for four days, in conjunction with a constant application of cold water to the parts; at the end of which time such great improvement had taken place, that the use of the sticks became no longer necessary. In four days more the parts appeared to have become quite reinstated, which, of course, rendered any further treatment unnecessary. I gave no medicine, except a very mild aperient in the first instance, but kept the bowels lax with bran, linseed, carrots, &c. &c. The mare being sold shortly afterwards, I lost sight of her, and am unable to say, in consequence, whether any return has taken place; but I should think such an occurrence not improbable.

INVERSION OF THE UTERUS IN A COW.

THIS case is sent principally to direct attention to the bulb and rod recommended by Mr. Cooper, of Berkhamstead, a sketch of which appeared in a late number of *THE VETERINARIAN*, and to bear my testimony to its great use in returning that viscus.

Early in the morning of 12th May, I was summoned hastily to attend a cow which had calved about 10 P.M. on the previous evening. She had experienced no difficulty in the act, but her after-pains were more severe than usual, so much so as to induce her owner (a very careful manager of stock) to have an attendant set up to watch her, she being a valuable cow. She continued straining at intervals, but was unable to rid herself of the placental membranes, until after one very violent effort, when they became ejected, and almost immediately afterwards

the uterus made its appearance. This occurred about 2 A.M., and a messenger was immediately sent for me.

On my arrival, I found complete inversion present, and, although so little time had elapsed, that considerable thickening and hemorrhage had taken place, caused by the animal's rubbing her quarters against the sides of the building and on the ground, the place being very dirty, with little or no straw. I do not intend troubling your readers with the minute treatment of this case. Let it suffice to say, that with the bulb and rod of my instrument I accomplished with ease that which on previous occasions had caused me considerable trouble, accompanied with no small amount of bodily exertion, contrary to what has taken place in most other cases treated by me. The efforts made by the animal at re-expulsion were very slight. This I attributed to the small space the rod occupied compared with the naked arm, in which I consider resides its advantageous service, the arm causing the continuance of violent efforts. The instrument likewise possesses the advantage of being capable of being introduced to the extreme end of the cornua, a part which the arm is unable to reach, and which I consider of the greatest importance.

A little tact is necessary in withdrawing the instrument. This must not be done too hastily. The better way is to withdraw it slightly and then pass it on again, and repeat this movement two or three times until its entire abstraction. To those engaged in cattle practice this instrument will be found of the greatest use; and I think we are considerably indebted to Mr. Cooper for directing the attention of the profession to it.

* * Mr. Cooper's account of this, his own, improvement in veterinary surgery will be found in vol xxiii, p. 293, of THE VETERINARIAN.—ED. VET.

UMBILICAL HERNIA.

CASES of the above are very common in breeding districts. Many being slight, require no treatment at all; others, however, if not attended to, remain unsightly for life, occasionally producing spasm, strangulation, and death. The old mode of treatment (and I believe many practise it now) was to place the animal on its back, return the bowel, insert four skewers through the loose skin, and apply a ligature. This had the double effect of removing the superfluous skin, and producing adhesive inflammation of the sides of the sac; and, in a general

way, the cases did well. Occasionally, however, death ensued, either from peritoneal inflammation or locked jaw. Thinking a safer mode of treatment might be adopted through the influence of pressure, from having known cases in the human subject cured simply by wearing a truss, I was determined to put it to the test. Accordingly, I had a kind of truss apparatus made for the purpose, which I am happy to say has proved successful in many cases. It consists of a common girth, properly sloped to the body, having a stiff piece of oval-shaped leather introduced inferiorly, to come in contact with the rupture. This should be buckled on moderately tight, and retained in its situation as follows:—Place a common collar on the animal's neck, to which three straps are attached, one on each side, and the other at the brisket. Two pieces of webbing should be attached to the main girth with buckles at the opposite end, to meet the side straps, and a piece of leather, instead of webbing, to meet the brisket one. This latter should be forked or split, part of the way, so as to admit of its being attached to the oval piece of leather covering the rupture. These are then to be buckled to the three straps coming from the collar, by which means the main girth is effectually held in its proper position. Over the whole a common circingle may be placed, just behind the elbows (the usual girthing place), in order to keep the whole snug and close to the body.

The animal thus harnessed should be turned into a loose box and fed well, the object being to force the system as much as possible. The best time for applying the truss is when the animal is taken off the mare. In a general way, about three months' wear of the truss will be found sufficient to effect a cure. The *modus operandi* appears to be this:—pressure keeps the bowel within the abdomen, thereby giving the aperture an opportunity of closing, which in many cases it will do most completely. But even should it not, you may depend upon its not getting larger. The bowel, from the general development going on in the system, hastened by the good keep, will soon do so, i. e. get larger, and consequently will not dip into the same opening, even should it remain. Partial or complete adhesion of the sides of the sac will take place, followed by an entire removal of the unsightly pendulous bag, with its contents, which constituted the disease.

HAY TEA RECOMMENDED.

To the Editor of "The Veterinarian."

Sir,—I AM not aware whether it is generally known that hay tea is an excellent restorative for sick horses. I have been in the habit of using it for some years past, and can speak of it in the highest terms. Horses are generally very fond of it, and will drink it when they will not take any other nourishment. It seems to invigorate, and help to bring on a healthy tone of action in the system. I have known horses drink three or four pailsful a day for several days together, and do well, although they have taken no other sustenance.

The way I order it to be made is this:—Pick out a large handful of good sweet clover hay; put it into a pail, and pour a gallon of boiling water upon it. Cover it up, and let it stand for an hour or two; then strain off the liquor into another pail, and fill the latter up with cold water, when it will be fit for use.

I am, Sir, your's truly,

JOHN BROWN, V.S.

23, Whitefriar's-street, Fleet-street,
Feb. 13, 1852.

A DOUBTFUL CASE.

Veterinary Establishment, Dangannon,
13th February, 1852.

Sir,—ON Saturday last, the 7th inst., I was requested, by Mr. G. M'C——, to examine the dead carcass of a bay horse that had died the day before.

APPEARANCE OF THE ABDOMEN.—The cæcum and colon in a high state of inflammation; the under surface of both quite black; the mucous lining of a pale green colour. The small intestines more or less inflamed throughout, but not to the extent of the large. The liver was quite green, and studded over every part with small abscesses containing pus, a portion of which was white, and the remainder as yellow as turmeric. The villous coat of the stomach slightly inflamed, with the exception of a spot about the size of a crown piece, which was quite black. Kidneys pale. The abdomen contained several gallons of bloody-coloured serum. The cæcum was attached to the peritoneum at the place it usually occupies; and the peritoneum

was highly inflamed. Omentum quite black. Thorax: the lungs were pale and flabby, as was also the heart.

It appears, from what I could learn, that this horse was purchased in May Fair, on the 2d of January last; *that on the next day he was observed to point the near fore leg out before him, as far as he could reach.* About a week afterwards he began to cough, which lasted for two or three days. On the 10th he ceased feeding, and ever after would take nothing except a little drink. About the 13th he got up and down frequently, as if labouring under some abdominal pain; but next day these symptoms disappeared, and up to the time of his dissolution there was nothing in his symptoms to lead those that were about him to determine as to the seat of disease. Such, Sir, is the account I got from the owner of the state of the horse, after coming into his possession. What medicine he got I know not, as I did not attend him. As an old subscriber to your valuable periodical, may I take the liberty of asking you, if, in your opinion, this horse was diseased at the time of purchase? Was the liver the primary seat of disease, or was the pointing of the leg in any way connected with the diseased liver?

I am, Sir,

Your obedient Servant,

G. M. MARSHALL.

To W. Percivall, Esq.

* * The disease whereof the horse died evidently was peritoneal gangrene, with ascites, a precursor of which was, apparently, the disease of the liver. It is probable hepatic disease did exist at the time of purchase; though problematical that the pointing of the leg was a symptom thereof. The eschar in the stomach might have been produced by caustic medicine, and so might the disease in the cæcum and colon.—ED. VET.

ADVENTITIOUS PRODUCTS IN THE CHOROID PLEXUSES OF THE HORSE.

BY MR. JOHN GAMGEE.

THE following is a description of a specimen of disease of the choroid plexuses found in the brain of a horse. There is no history of the case prior to death, inasmuch as the brain was procured from the slaughterman for dissection.

On cutting into the body of the lateral ventricles, a tumour was seen on the anterior part of either choroid plexus. No other trace of disease was detected in any part of the encephalon; it was, however, unusually vascular.

The right tumour was two-thirds of an inch in length, by half an inch in breadth. It was composed of a large and two smaller masses, resembling fat, apparently enclosed in a thin capsule, and appended to the under and anterior part of the choroid plexus.

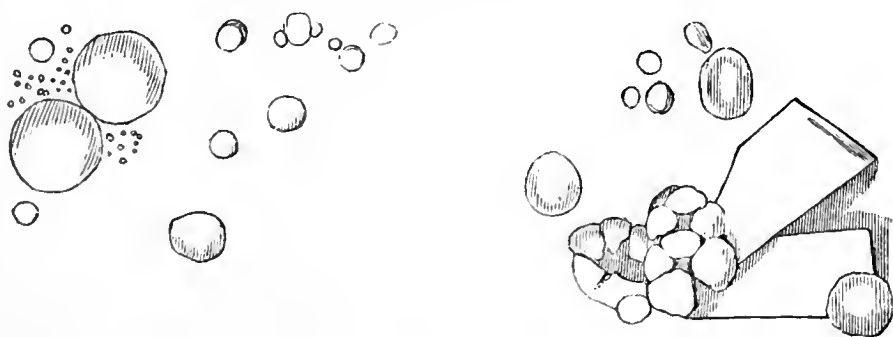
The left enlargement measured two-thirds of an inch antero-posteriorly, by five lines in breadth. It had a vesicular appearance supero-anteriorly, whilst at the posterior and upper part was a lump similar to those described in the right one.

This appearance suggested that it might probably be some degeneration of materials which had been effused beneath the lining membrane of the choroid plexuses, and interstitially within the villi at the upper part of the left one. I have never before seen tumours of the like kind so distinct and circumscribed; in other instances they have appeared to me to be more especially due to interstitial deposit, whilst here the substance most probably existed between the serous and fibrous layers contributing to form the choroid plexuses.

MICROSCOPIC EXAMINATION.—The contents of the enlarged villi consisted of crystals of cholesterin granular matter, which was partly soluble in ether, and partially not so, proving that it was not altogether fatty. There were also some blood discs, not unlikely escaped from the bloodvessels divided in cutting through the villi, and epithelial scales modified in shape.

The more distinct tumours contained a pulpy substance of a yellowish white colour, composed principally of crystals of cholesterin with globular bodies, varying in size from $\frac{3}{4000}$ to $\frac{1}{10000}$ of an inch in diameter, closely resembling oleine, inasmuch as they were gradually shaded from circumference to centre, and appeared devoid of structure.

Fig. 1.



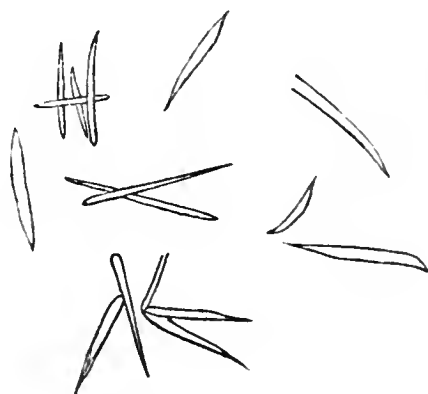
On adding hydrochloric acid, these apparently characteristic globules of fat dissolved without effervescence, whilst ether did

not affect them in the least. The compact nature of these bodies was further demonstrated by the fact, that, on pressing together the two glasses between which the substance was interposed for examination, the masses split up in a regular manner from the centre to the circumference.

This very strange deceptive appearance bearing such a close resemblance to common fat, was detected by Dr. Jenner, Professor of pathological anatomy at University College, who kindly aided me in examining these interesting morbid products. It is not to be wondered at that the microscopic characters of oleine are deceptive, when we reflect on the fact, that they depend on the peculiar manner in which this substance refracts light.

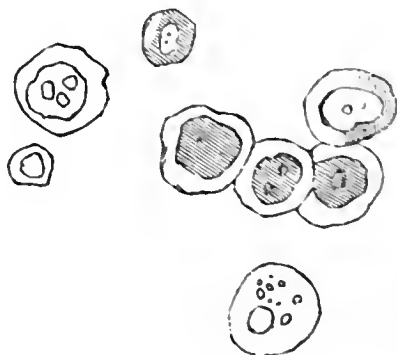
Proceeding with the examination of the substance, it was found to contain granular matter, which dissolved with effervescence in hydrochloric acid, owing probably to the existence of a carbonate, perhaps of lime. Nitric acid had more or less the same effect. On the addition of ether to a portion of the substance after its earthy matter had been destroyed by hydrochloric acid, the crystals of cholesterine and fatty granules were dissolved. As the ether evaporated the fat was deposited, modified in character, and interspersed were crystals, as seen in the annexed Figure 2.

Fig. 2.



Besides these were clusters of organic cells, consisting of an envelope with an apparently vesicular nucleus, containing granular matter, and one or more nucleoli. See Fig. 3.

Fig. 3.



Mr. H. E. Roscoe, of the Birkbeck Laboratory, at University College, has very kindly analysed the substance; and the following are the results obtained:—

After the destruction of the organic matter by burning, a fixed inorganic residue remained, which was found to contain lime. The fat was removed by repeated washings with ether, and the remaining granules dissolved in hydrochloric acid, and *lime* and *phosphoric acid* were found to be present.

There also appears to be some organic matter which is insoluble in ether, and which is probably an organic acid.

From the analysis, aided by what we have detected chemico-microscopically, we infer that the spherical bodies were composed of phosphate of lime; and the granular matter, which dissolved with effervescence on the addition of the acids, consisted most probably of the carbonate of lime.

Dr. Bennet, in his work on Cancerous and Cancroid Growths, has described similar bodies, which he detected in a cancroid tumour attached to the tentorium. He states that Mr. Nathaniel Ward, at a meeting of the Pathological Society of London, where the tumour was exhibited, remarked "that the bodies under consideration appeared analogous to those described by Valentin, as occurring in the choroid plexus and pineal gland, and which, he states, appear under the microscope at first something like air-bubbles, but on closer examination are found surrounded by a clear transparent membrane, so as to appear to be contained in a cell formation. On being pressed, they break in a radiated manner transversely or irregularly. After treatment with acids, the organic skeleton remains, and the concentric structure is still visible. They are with difficulty converted into an ash under the blow-pipe, and even then preserve their laminated arrangement. They are composed of carbonate of lime, with the baric phosphate mixed up with a little phosphate of magnesia and ammonia." Dr. Bennet thinks that Gluge has also described similar bodies.

Those I have examined differ from others described in not having an organic skeleton, but that they are identical, if not exactly similar, appears from the following statement of Dr. Bennet. "The true nature of these bodies is involved in some obscurity; but since writing the above observations, I have had several occasions of witnessing the mode of their formation in the choroid plexus. At first there seems to be deposited a quantity of mineral granules in round or oval patches more or less large. As these become more numerous, a clear centre, composed of transparent homogeneous mineral substance, may be seen in the centre, which gradually extends to the circumference, until the whole presents a uniform mass. The bodies

thus formed exactly resemble those represented, with the exception of the fibrous sheath, which in the choroid plexus was absent. These are, in many respects, very similar to the mineral concretions so common in the prostate gland."

It is to be regretted that we are not acquainted more fully with the symptoms which such morbid products occasion during life. However, it would appear from the case described by Mr. Percivall, in the Number of *THE VETERINARIAN* for December 1851, that they may occasionally produce serious results, and be efficient predisposing causes to apoplexy, inasmuch as the pathognomonic signs of this affection were exhibited by the mare both before and at the time of death. Mr. Percivall adds, that "the mare was a 'weaver' in her stall, and was known to be of that nervous temperament to cause her to be, without warning, dangerous of approach." Might not this peculiar habit of weaving originate, in this as in other instances, from the morbid deposits being so intimately related with structures vitally important?

Since the above remarks have been penned, Mr. Percivall has kindly given me the plexuses he removed from the brain of the same.

The two tumours, either of them about the size of a nut, are such as are frequently found in brains of old horses: they are red conglomerate masses, irregularly papillated and covered by a dense fibrous sheath; gritty and tough under the knife. The fluid which may be squeezed from them consists principally of cholesterin, masses of earthy matter, dissolving with effervescence in hydrochloric acid, and giving as residue some amorously arranged organic matter, mostly modified states of the unsaponifiable fat. A portion of the tumour washed in ether becomes extremely brittle and hard; a drop of the solution, if allowed to evaporate, deposits granular matter, and bodies such as delineated at *fig. 2*. The greater part of this precipitate resists the action of liquor potassæ, so that the objects alluded to are probably crystalline forms of cholesterin, the result of rapid deposition. To ascertain this I dissolved some biliary calculi in boiling alcohol, allowed this to cool, and washed the residue with proof spirit, when the same phenomenon manifested itself. Professor Müller, on dissolving cholesteatoma in boiling alcohol and ether, found that it yielded a residuum bearing the following characters: "No oil remained, but a finely granular fat, probably stearine. To these granular masses were attached very delicate elongated microscopic lamellæ of unequal size, slightly bent, and closely resembling the lanceolate leaves of plants. Their edges are convex, and, converging, meet to form the pointed extremities of the lamellæ.

The author is unacquainted with any crystalline form of fat to which these bear a resemblance. Neither the alcoholic nor æthereal solution yielded any tubular crystals." The lamellated, lanceolar objects thus described appear similar to those I have witnessed, although the drawings given of them are not exactly identical; they vary in my objects, apparently being narrower, and not so bent. However, these are a few selected from many, and when examined with a higher power no appreciable difference can be detected. I venture to infer, that, had Mr. Muller tested the objects further, he would, in like manner, have found them to consist of modified scales of cholesterin.

The envelope of the tumours consists in condensed areolar tissue, interspersed with fat and earthy matter; the latter partially effervesces if dissolved in acid. There are no distinct globular phosphatic bodies. The bulk of the adventitious products consists of cholesterin and irregular earthy masses.

Mr. Roscoe, on testing them, for which I wish publicly to acknowledge my gratefulness, re-assured himself of the presence of "lime and phosphoric acid." He finds "also that an effervescence occurs in dissolving the substance in hydrochloric acid, which is no doubt due to the presence of carbonic acid. Magnesia does not occur in the deposit. There appears to be also an organic acid insoluble in ether."

I have had occasion to examine other two tumours from a horse's brain of most extraordinary size. The one is two inches and a quarter long, by one and three-fourths broad; the other is two and one-third by one and a third inches. These filled up the whole cavity of the ventricle, having led to the absorption, on either side, of the intraventricular portion of the corpus striatum, tænia semicircularis, anterior part of the optic thalamus, and hippocampus. No history is appended to the case; and whilst I have not yet been able to acquaint myself thoroughly with the nature of the masses, they appear, in many respects, similar to the others, only varying in the amount of cholesterin, which is so excessive and so peculiarly arranged as to admit of their classification under the head of cholestomatous tumours, so rarely met with. More may, perhaps, be said respecting these and other such cases when time and circumstances permit. I wish only to add, that Dr. Jenner has in his possession two choroid plexuses enlarged similarly to Mr. Percivall's: strange to say, the woman from whom they were removed had no symptoms before death which would have led to the inference that her brain was the seat of disease. In apparently healthy choroid plexuses from two human adults, I have found the phosphatic bodies with a concentrically arranged fibrous basis, but no cholesterin.

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

TREATISE ON THE ORGANIZATION OF THE FOOT OF THE HORSE, COMPRISING THE STUDY OF THE STRUCTURE, FUNCTIONS, AND DISEASES OF THAT ORGAN. By M. BOULEY. With an Atlas of 34 Lithographic Plates. Paris, 1851. Parts I & II. Fcap. 8vo, pp. 320.

[Concluded from p. 91.]

M. BOULEY'S own theory of the Elasticity of the Hoof will become the subject of our present consideration.

M. Bouley commences with the question—"Is the elasticity of the hoof a product of the mechanical arrangement of its component parts; or does it amount to no more than, what Lafosse estimated it at, a property inherent in the substance of the horn itself?" In answer to which question, he argues:—

"That the very construction of the horny box is such as to convince even a superficial observer, it was not designed to remain immutable in form. Had the hoof been intended as a fixture, it would have been better that the wall, in which its strength principally resides, should have been made a perfect cylinder. Whereas, we find it cleft and divided posteriorly into two great halves, between which is interposed a body of a supple nature, the frog; a construction affording strong presumptive evidence of the hoof being a body susceptible of a certain kind or degree of motion within itself.

"That, in its normal condition of form and structure, when first it comes to tread the ground, the inferior border of the wall, with the peripheral margin of the sole, are the only parts that take any bearing; the frog, the bars, and the middle of the sole, remaining elevated above the ground: a circumstance which would lead us to believe that the void left below was for the purpose of permitting their descent under the operation of augmented weight or pressure. Though these be no more than conjectures, arising out of reflections prompted by the physical construction of the hoof, yet do such conjectures become certitudes when we consider the phenomena observable in the hoof in action. At the moment the heels of the hoof come to the ground, we observe them, in their entire length, approach each other with great exactitude, and separate again as soon as the foot quits the ground. What better proof can we desire of

dilatation of the divisions of the hoof behind than this? Is it not a phenomenon identical with what takes place in a bow, when its superficial fibres, split at the centre of their convexity, separate every time the bow is bent, and resume their former place whenever it is straightened? This proof of the expansibility of the hoof, furnished us by daily observation, receives confirmation from Mr. Reeve's ingenious researches. Notwithstanding Mr. Gloag's opinions to the contrary, it appears to us that his experiments shew that the hoof at the moment of *appui* experiences dilatation, extremely nice of detection no doubt, yet still sufficient to receive and preserve the impressions of the points of the iron pins, which, before the foot was put down, simply touched the surface of the horn*.

"Lastly, we may adduce as proof of the expansibility of the hoof, the phenomena we are able of ourselves to elicit by subjecting a fresh foot to the force of pression, applied so as to imitate that of the superincumbent weight upon the living foot.

"Such experiments, with the measurements they afford us opportunities of taking, furnish clear evidence of the expansion of the foot, as well in its superior as in its inferior parts: also that the superior dilatation exceeds the inferior, whenever, under the operation of pression, the pasterns are directed backward, so as to throw the pressure upon the bulbous mass (the fatty frog) behind; whereas, the inferior dilatation becomes the greater whenever the small pastern is tilted perpendicularly upon the coffin-bone. The degree of expansion, as ascertained, as nearly as possible, by admeasurement, will, of course, vary under various and different circumstances; and experiments made with the view of determining this, seem to warrant us in coming to the conclusion, that the hoof of the horse is susceptible of an expansion, restrictive though it be, still of a real and demonstrable character.

"We do not bring forward here what is usually regarded as evidence of expansion, the shining and polished marks presented by the foot-surfaces of old shoes; since such brightened places upon the shoe shew no more than the fact, that they have been opposed to the hoof, and are the result of collision with it. The proof of which is, that if a flat shoe be put on without being fitted out, its upper surface will exhibit polish to a much greater extent than in the other case, owing to the larger surfaces of contact; and if, in ordinary shoeing, the parts of the shoe towards the heels exhibit the broadest shining marks, such extension is ascribable to the circumstance of the bearing being broader at the parts where the wall makes its inflexions, as

* For an explanation of this, see Mr. Reeve's experiments in *THE VETERINARIAN*, vol. xxiii, p. 61.

well as to the greater collision with the branches of the shoes, owing to the distribution of the nails around the fore parts of the hoof.

“Indeed, so far from the brightened places upon the old shoe being demonstrative of expansion, they might rather be regarded as shewing how exceedingly limited such expansion must be; since, if comparison be made by admeasurement between the transverse diameters of the crust of the foot and the bright marks upon the web of the shoe, we shall find the most perfect equality between them at every point; proving that the play elasticity gives to the foot, which is so nice of detection in the natural (unshod) foot, is all but annihilated under the ordinary conditions of shoeing. Limited however as it is, still *it actually takes place*, as we think has been proved by the demonstrations we have here adduced.

“THE FORCE PUTTING INTO ACTION THE EXPANSIBILITY OF THE HOOF is derived from the pression within its cavity of the coffin-bone, upon which the entire superincumbent weight descends.”

M. Bouley proceeds here to shew the manner in which the weight of the body is transmitted, through the bony shafts of the limb, upon the foot;—how therein the pression becomes productive of a double movement; one being in a direct line with the laminæ, the other in an oblique line (from before backward and from above downward) parallel with the plane of the coffin articulatory surface: after which, he enters into a detail of the functions of the sole, bars, and frog, as component parts of the elastic apparatus; and finally concludes the subject of the “Elasticity of the Hoof” by coming to the annexed deductions:—

“1. That the hoof, considered as a whole, is not *completely immutable* in form; but, on the contrary, is capable, in a degree very limited it is true, but still real, of yielding to the pression of internal force, and of recovering, on the cessation of such force, its primitive form; and this it is that constitutes its *elasticity*.

“2. That this elasticity is especially manifest in the posterior part of the hoof, where the wall exhibits a breach in its continuity, which is occupied by the more pliable horn of the heels of the frog and by the arciform plates of the periople (*coronary frog-band*).

“3. That it (the elasticity) is put into play, at the moment of *appui*, by the aggregate of pression transmitted down the pasterns upon the pedal bones.

“4. That dilatation, resulting from such accumulated pression, becomes manifest—*a*, All round the upper margin of the hoof, where the thin crust generally yields to the stress upon the coronet:—*b*, To a more sensible degree in the bulbs of the cartilages and plantar cushion (fatty frog), which exert a dilating force upon the heels of the frog, and upon the arched replications of the periople, producing descent (*renversement*) of them backwards:—*c*, And, lastly, upon the inferior circumference of the wall, at the posterior parts of the quarters, on a level with the heels, where expansion becomes the result of the combined action of the sole, bars, and frog, the tendency of such being to produce an expansive (*eccentrique*) action under the impression of force from above.

“This eccentric or expansive motion becomes the more perceptible the greater the pression exerted upon the posterior parts of the hoof. For example, it is greatest when a horse is at his fullest speed, as the moment that the pasterns, in consequence of the fetlock joint being tensely extended, are depressed to that degree, that they approach a horizontal line, occasioning intumescence of the bulbs of the fatty-frog in the interval between the cartilages, and pressing at the same moment with all their weight upon the cone of the frog, (the *frog-stay*); constituting a mechanical contrivance of that felicitous nature that the spring of the hoof regulates itself by the force of the effort it has to sustain.

“Bracy Clark has much exaggerated all this expansive action, and hence the fruitless expenditure of money and thought the construction of his jointed shoe has put him to. While the different patented shoes of Coleman, which have turned out but an *invention malheureuse*, evince the same over-rating.

“So that—and on this point M. Bouley insists, it being with him a principle—what is called its dilatability, expansibility, or elasticity, amounts to the hoof not being regarded as a fixed body; at the same time, its rigidity is not such as to refuse expansion to the internal parts of the foot, though within limits so restricted, that the spring excited in it is scarcely perceptible to our means of detection.

“It is not, therefore, in the hoof itself, viewed as a mechanical body, that the greatest elastic power resides, but in the parts enclosed within the hoof. These parts it is which, by virtue of the properties they enjoy of dilatation, contraction, and expansion, change their form under the influence of pression, and thus are enabled to deaden and annihilate, through their suppleness of substance, all ultimate effect of shock, &c.

“The compressibility they are capable of, which admits of their

being readily reduced to a smaller volume, does not render it necessary that the hoof should dilate to admit of their expansion. The peculiar construction of the foot of the ass and mule is well calculated to demonstrate the main function, in regard to elasticity, performed by the flexible parts contained within the horny box. In these animals, the hoof is completely *inexpansible*. It is so narrow, so high and strong at the heels, so deep in the sole, so resistant in the bars and the concavities of the sole, altogether so thick and so rigid, that it is not conceivable it can possibly yield to the slightest dilatation internally; yet is such conformation of the horny case of foot unattended with any impediment to freedom of motion. And this arises from such inflexibility being compensated for by the inordinately proportionable development of the fatty frog and lateral cartilages, which project out behind the coffin-bone in a much greater degree than in the horse, and thus considerably augment the elastic apparatus of the pedestal of the limb.

“To resume—the essential phenomena of elasticity in the pedal (*digitale*) region take place within the cavity of the horny box itself. This box concurs in their production but in a very small degree, since the lateral expansion of which it is the seat cannot exceed the restricted limits imposed upon it by the very small amount of elasticity the laminæ and their subjacent reticulum are susceptible of.

“Beyond such limits the hoof could not expand without disarrangement of its integrity.”

Here we shall make an end. That in devoting so much of our readers' and our own time and attention as we have, to the examination, and if possible settlement, of a question so frequently before not veterinary men only but the public at large, we have been tiresome or even wearisome, we are unwilling to believe. To settle or set at rest such a question as *the expansion of the hoof* would amount hardly to less than the condemnation or approbation of this or that “system of shoeing,” and so far tend to establish or overturn our present forge practice. Gloag among ourselves, and Reynal* among the French, deny that any expansion of the hoof takes

* M. Reynal made a communication, in May 1851, to the National and Central Society of Veterinary Medicine, of a series of experiments made by him at the time he served in the army, so long ago as 1845, analogous to those of Mr. Reeve's, to which they are antecedent in date, though they remain up to the present time unpublished. These experiments tend to shew that the alleged expansion (*dilatation*) of the hoof around its plantar circumference absolutely amounts to *nil*.

place in action ; while Bouley, as we have just seen, finds its degree in the unshod or natural foot exceedingly small, and in the shod foot so trifling as hardly to admit of demonstration. This alleged, and we believe on all sides acknowledged, very limited expansion the wall of the hoof undergoes under the operation of pression may serve to account for the contrariety of opinion, and that professional, on the subject up even to the hour we are writing ; though such difference of opinion may be, and no doubt is, very much influenced by the circumstance, also pretty generally admitted, of whatever expansive properties the unfettered or natural hoof may possess, being very materially counteracted, if not altogether annihilated, by the practice of shoeing. Let the question turn, however, which way it may, we feel quite assured our readers, even from the little they have had presented to them of the work under examination, will unite with us in considering a tribute of acknowledgment and thanks due to M. Bouley for his valuable researches into a subject at all times a favourite with us, and one which in parts still remains a mystery to us. In the present state of plantar literature on our own side the channel, the work, which must take rank among the *chef d'œuvres* of our art, would prove valuable to us in a translated form : at the same time, we must remind the translator, whoever he may be, that *his* production may be rendered additionally attractive by containing an equally faithful and particular account of such British veterinarians as have written on the foot as what M. Bouley's does of the French authors on the subject. In fact, M. Bouley will, we feel quite certain, in another edition, supply this important omission himself, not only as one required by the work, but as one demanded by a nation whose veterinary representatives cannot but feel that partial justice only has been dealt out to them in the present volume. And we speak the more confidently on this point, because we now know that M. Bouley, at the time he was writing this book, lacked such English works in his library as were necessary for him to possess in order to enable him to make his " history of elasticity " complete ; works which he tried every means, unsuccessfully, to obtain from this country.

VETERINARY JURISPRUDENCE.

BLABER *v.* GRIFFINHOOFF.

THIS was a claim for £10..17s., for breach of warranty of a horse. Mr. Williams was for plaintiff, and Mr. Kennett for defendant.

Plaintiff said, he advertised in October for a cart horse, and received a letter from defendant stating he had a chestnut horse for sale, which he would warrant sound. On the 3d October, went to Salvington and saw the horse, and the next morning bought it for £47..10s: gave a cheque for the amount. The horse was sent over on the Saturday, and put to work on Monday. It worked till Thursday, and then he heard it was lame. Sent for Mr. Birt, who examined the horse, and said, "I hope you have not bought it." Wrote a letter to defendant that night, telling him the horse was not sound, and that it must be returned. Defendant came over and saw the horse, and afterwards wrote to say he was sorry it had caught a severe cold, and wrung its shoulders, since it left Salvington; but that he could not discover it had even a limp, and that it had been with him ever since it was two years old, and never lamed. As it was not lame when it left, and was not lame when he saw it, he should not think of taking it back. On receipt of this, plaintiff sent a proposal, that, to settle the question of lameness, the horse should be sent to the Veterinary College in London, that the point might be decided. This was refused. Mr. Mannington was then called in, and subsequently Mr. Grover, of Lewes, saw the horse. It was eventually sold by auction, by Messrs. Verrall, of Lewes, and fetched 40 guineas. Its keep amounted to £1..17s.

Cross-examined.—I examined the horse when I bought it; not so minutely as I should have done had I not had the warranty. Ossification of the lateral cartilages of the fore feet is what I understand it suffers from. I did remark that the feet looked curious, and the defendant attributed it to its not being shod lately, adding that the horse was "never lame, sick, or sorry." He asked 50 guineas for the horse: I offered £45, which he refused, and we afterwards split the difference. Did not work the horse very hard. When my carter reported that the horse was tender on his feet, I sent for Mr. Birt, and he at once detected the defect. I did not observe that it had a cold; the shoulders were a little wrung. It was Mr. Verrall who called it in his sale bill a "valuable" cart gelding. The biddings jumped up suddenly from 20 or 21 to 40 guineas.

Peter Wood is carter to Mr. Blaber. Worked the horse on the Monday to Southwick twice, with a very fair load. He went lame. He had bad shoes on, and, attributing it to that cause, he had him re-shod. He went worse the next day, and so on till the fourth day, when orders were given to discontinue working him.

Cross-examined.—I noticed the lameness before we got to Southwick. Told plaintiff on Thursday. The shoulders were a little wrung on the third day. The horse had no cold. Perhaps a sound horse taken from the soft ground of a farm and newly shod might go lame on a hard road. Himself and mate discovered the lameness about the same time. Did not discover the lameness because he only received a shilling with the horse.

William Birt sworn.—I have practised as a veterinary surgeon twenty-eight years. Examined the horse on the 10th. Found him unsound, in consequence of the ossification of the lateral cartilages on the coronet of both fore feet. That would make him lame. The horse might do farming work for a considerable time without this being discovered. It must have been on him for six months. This is a common disease with horses.

Cross-examined.—It had not a cold; there was a very trifling rub, if it could be called a rub, on the shoulders. Mr. Blaber did not draw my attention to the defect: I could have seen it at twenty feet. I should say that the actual ossification in this case does not admit of a question.

By the Judge.—This defect would decidedly be unsoundness; the wringing could not have caused the lameness.

John Mannington, a member of the Royal College of Veterinary Surgeons, examined the horse on the 16th October, and agreed with the last witness: the ossification was principally on the outside.

John Grover, Veterinary College, examined the horse, and came to a like conclusion.

This was the plaintiff's case.

Defendant sworn.—I am a farmer at Salvington. When plaintiff bought the horse it was brought out for his inspection, and he examined it. He remarked that the feet were curious. I said, "Yes, but he's never been lame; he has been in my possession since 1849." Have worked him at all kinds of work, and he has never gone lame.

George Combe is a veterinary surgeon at Worthing, and is a Member of the College of thirty-two years' practice. Had examined the horse, and he thought the other witnesses had not minutely examined his feet. There was no ossification of the cartilage, but only an excrescence on the convex side of the hoof

that could in no way produce lameness. It was a mere horny substance, not at all in the nature of an ossification. The lameness, if there were any, might have been caused by the shoeing, and the change from the soft farm to the hard road. The horse was perfectly sound, and not lame, when I saw him.

John Daltrey is a veterinary surgeon at Petworth, and attends Col. Wyndham's stud. Had examined the horse most minutely, and found that there are large excrescences growing on the heels of the fore feet; believed them to be an abnormal growth of the horn, not affecting the cartilage within an inch. You might remove the cartilage, and still the excrescence would remain. The horse is sound, and, when examined, not lame.

Cross-examined.—The excrescence does not affect the working of the horse. You do not get excrescences to that extent. *The healthy cartilage does not extend beyond the level of the hoof.*

George Hide, defendant's carter, had used the horse for three years both on farm and road. He had never gone lame. Defendant bought him back at the sale. Has worked him every day since; has worked as well as any horse on the farm.

Several other persons in the defendant's employment gave similar testimony.

His Honor said, this was a painful case for him to decide; it should have gone to a jury. The testimony of the plaintiff was that the horse was lame two days after being in his employ; but then the evidence of defendant was very strong, and that shewed that up to the time of the horse being delivered it was perfectly sound; he, therefore, came to the conclusion that when the horse was purchased it was a sound horse, and that the defendant's warranty was therefore complied with. How the horse became lame on going into the plaintiff's possession, it was not for him to determine.

Verdict for defendant.

To the Editor of "The Sussex Express."

Sir,—Seeing this case reported in your paper last week, and as there is much in it which might go far to impress on your readers that myself and Messrs. Grover and Burt had either examined the animal in question in the most careless manner, or were utterly incapable of practising our profession with any thing like credit to ourselves or advantage to our employers, I am sure you will give me the indulgence of a place in your columns to explain and vindicate our opinion. With the testimony of the *farming men* I have nothing to do, as it is notorious, horses of slow work may be lame for a long period

without its being discovered by such as these; I shall, therefore, content myself by commenting on the veterinary evidence, and, so far as I am able, to convince your readers that an incorrect judgment was given. It will be seen that Messrs. Grover, Burt, and myself, distinctly stated on oath, that the horse shewn to us by Mr. Blaber was unsound *from ossification of the lateral cartilages of both fore feet*, which existed to such an extent that it could be readily detected by both sight and touch; and Messrs. Comber (of Worthing) and Dawtry (of Petworth) as distinctly stated that the cartilages were *not ossified*. With the evidence of Messrs. Grover and Burt I entirely concur, therefore I have no remark to make on either of their statements. Mr. Comber states, "The veterinary surgeons opposed to him had not minutely examined the enlargement, but that he had, and found that it was horny fibre." This enlargement being situated under the skin above the coronet, I will leave to the common sense of your readers to judge how far this statement can be correct: as for myself, horny fibre in a horse is quite a new tissue to be deposited in any place except on its hoofs. He then states, "if it *was* an ossification, it would not produce lameness;" and Mr. Dawtry states, in direct contradiction to this, that "if there had been an ossification of that size, the horse would have been dead lame." Mr. Comber also stated (which does not appear in the report) that neither *splints*, *spavins*, nor *ossified cartilages*, were unsoundness after the process of ossification had been completed. Now, sir, I think this sweeping assertion at once proves how much this gentleman's opinion was worth, and I shall not trouble you by dwelling more on his evidence. Mr. Dawtry's evidence, with the exception of the difference I have drawn attention to, was in effect the same as Mr. Comber's; and he also stated the enlargements (which I wish distinctly to impress on your readers were situated immediately above the coronets towards their hinder parts) were not within an inch of the cartilages; and also that the *lateral cartilages were situated within the hoof, and in no part extended above it*. Now, sir, had I heard any amateur moderately well acquainted with the structure of the horse, make such an assertion, I should have been surprised; but when a member of the veterinary profession states it on oath, I cannot find words to express my astonishment; and, to prove how entirely opposed this statement is to what is correct, I beg leave to copy the description of these parts from our best veterinary anatomists. Mr. Percivall says, "The cartilages project backwards beyond the coffin-bone, giving form and substance to the heel. Supposing one of them to be divided into two equal parts by a line drawn horizontally across its middle, the su-

perior part, *which extends as high as the pastern joint*, is covered by skin only; and on that account is *quite perceptible to the feel, and in form to the sight*, as the animal stands with his side towards us. Mr. Blaine states, "They are partly within and *partly without the hoof*, and are covered at their lower portion by the coronary ligaments;" also, "that they appear particularly intended to operate in expanding the upper horny portions of the hoof." Mr. Youatt tells us, "the cartilage, like the crust, is convex outwards, and concave inwards; it extends to the very posterior part of the foot, rising *about the quarters, half an inch or more above the hoof*." Now, nothing can be plainer than these statements to prove Mr. Dawtry was entirely incorrect in his judgment; and I am of opinion that his positive, though erroneous, assertions had much to do with the decision of the Judge. Mr. D. made a remark, that "if the horse was here, he would soon prove to Mr. Mannington that he (Mr. M.) was wrong;" but I think, if Mr. Dawtry will take the trouble to dissect a horse's foot carefully, and then compare it with what he has seen of the horse in question, that he will find *himself* wrong and *me* right. I know other veterinary surgeons had been procured to examine the animal by Mr. Griffinhoof, but that they considered him unsound, and consequently were not brought forward to give evidence; and I will stake my professional reputation against that of Mr. Dawtry, and against the assertion of all those men brought forward by Mr. Griffinhoof, that the *horse is still unsound, and unsound from ossification of the lateral cartilages of both fore feet*; and if Mr. G., who still has the horse in his possession, will allow me, I will myself be at the expense of procuring either Mr. Spooner, Field, Mavor, or Turner (gentlemen of high character in the veterinary profession), to examine him, and I will abide by that decision, which shall appear in your columns. Mr. Griffinhoof can readily comply with my request if he chooses; I have made it to him before, by letter, but have received no answer, and I now make it publicly. I am not actuated by any ill feeling towards Messrs. Comber and Dawtry, not even being acquainted with either of them; but I wish to remove the onus of having given an incorrect opinion about so simple a case from myself and from those gentlemen whose evidence was in behalf of Mr. Blaber.

With apologies for trespassing so long on your valuable space, I beg to subscribe myself

Your obedient servant,

JOHN MANNINGTON, M.R.C.V.S.

Brighton, Nov. 27, 1851.

Foreign Department.

DEATH OF M. BARTHELEMY, SENIOR.

IN the death of this much respected *ci-devant* professor at the Alfort school, which took place on the 19th of September 1851, in the 76th year of his age, the veterinary profession in France have experienced a loss of no mean character. M. Barthelemy commenced his professional career in the army at the time of the empire, whence he was translated to the chair of professor. He was a member of the National Academy of Medicine, of the National Central Society of Agriculture, and of that of Medicine, and an Officer of the Legion of Honour, &c. Though he reckoned upwards of forty years in the laborious exercise of his profession, yet were his hours so unremittingly taken up as to allow him little time for leaving behind him many bequests to science of a literary nature. Still, has he left in our minds cherished recollections of his highly valuable experiments on contagious diseases, more particularly as regards glanders and malignant fever (*charbon*); besides those of the very honourable stations he is known to have held in the various learned societies of which he was a member.—*Recueil de Méd. Vét., Sep. 1851.*

INQUIRIES INTO A DISEASE OF THE HORSE AS YET BUT LITTLE KNOWN.

By O. DELAFOND,

Professor of Pathology at the National Veterinary School at Alfort.

[Continued from page 104.]

I BELIEVE I have already shewn in two other papers*, by a mass of indisputable facts, that artificial provender, given in too great abundance for any length of time, will in cattle and sheep induce sanguineous plethora, speedily followed by hemorrhagic congestions in the intestines, the spleen, the kidneys, the lungs, the spinal canal, the skin, the cellular tissue, &c. This result is constant, undeniable, self-evident. The horse, naturally sanguine and athletic in his temperament, expending much blood by exertion, bears up for a longer time than ruminants against the effects of succulent diet and that polyæmic condition which is the consequence of it. Still, the bowels, wearied by the constant presence of a large mass of alimentary matters, become heated and irritated; and this irritation, united with sanguineous

* In articles on disease of the blood in neat cattle and sheep, vol. viii, 3d series of the *Recueil*.

plethora, becomes the cause of intestinal inflammation—complicated with the alteration of the blood I have described.

In a word, the result of my inquiries up to the time I am writing shew,—

1st.—That artificial fodder, in the best cultivated parts of the country, is becoming more and more grown.

2dly.—That such provender is in many parts becoming the principal food for horses and cattle.

3dly. — That the nutritive and blood-furnishing value of grain and fodder, the produce of artificial leguminous plants, well harvested, is greater than that of meadow hays.

4thly.—That such properties vary much, according to climate and soil.

5thly.—That, *cæteris paribus*, artificial grasses from a calcareous, argilo-calcareous and ferruginous soil, possess these (nutritive and blood-furnishing) properties in a more remarkable degree than that grown upon clayey, wooded, and especially wet soils.

6thly.—That such artificial, highly nutritive, and highly blood-producing aliment given to horses, although combined with feeding with oats, by augmenting the volume and without doubt the quality of the blood, determine not only fatal hemorrhagic congestions of the sanguineous viscera, but also inflammations more or less acute of the intestines, complicated with alteration in the blood.

But to what are we to ascribe the modifications in the blood, and the importance of the disease in question?

Animals in a state of nature seek such food as is most proper for them. Carnivora seek flesh; insectivora, insects; granivora, grain; herbivora, plants and various succulent grains; and with such, their natural food, they never ail but through accident. With the domestic animal, however, it is different. He can get no other food but what man supplies him with, and whether it be good or bad, nocuous or innocuous, he must eat it; and hence it becomes a question to what extent his diseases are the product of feeding. The following is

The Composition of the Blood.

- | | |
|-------------------------------------|--|
| A. Assimilative organic principles. | $\left\{ \begin{array}{l} 1. \text{Fibrine or animal gluten.} \\ 2. \text{Albumen.} \\ 3. \text{Globules formed of fibrine, albumen, iron in a particular state.} \\ 4. \text{Fat.} \end{array} \right.$ |
| | |
| | |
| | |
| B. Inorganic substances | 5. Lime, potash, soda, magnesia, &c. |
| C. Vehicle | 6. Water. |

The horse ought to find such in his aliment, the globules ex-

cepted. Nay, more; these different principles should be in due proportion for his well-being; for should either of them or the watery vehicle prove in excess, the blood will undergo correspondent changes, and disease result. The diseases that have come under my notice in the provinces have appeared to me to be *the consequence of the introduction into the blood of too large a proportion of the two organic principles essentially leguminous; viz. legumine and caseine, known by the name of vegetable albumen.*

In order to make this intelligible, I subjoin the analysis, according to Davy, Brüssinghault, Liebig, Payen, Dumas, and Cahours, of the ordinary food of horses.

Grain and Meadow (Natural) Hay.

HAY.		BLOOD.
A. Assimilative products .	$\left\{ \begin{array}{l} 1. \text{ Gluten or fibrine.} \\ 2. \text{ Albumen.} \\ 3. \text{ Fat.} \end{array} \right.$	$\left. \begin{array}{l} 1. \text{ Gluten or fibrine} \\ 2. \text{ Albumen} \\ 3. \text{ Fat.} \end{array} \right\} \text{ Globules with iron.}$
B. Salts	$\left\{ \begin{array}{l} 4. \text{ Potash, soda, lime,} \\ \text{magnesia, \&c.} \\ 5. \text{ Salts of iron.} \end{array} \right.$	$\left. \begin{array}{l} 4. \text{ Potash, soda, lime, mag-} \\ \text{nesia, \&c.} \\ 5. \text{ Salts of iron.} \end{array} \right.$
C. Vehicle	6. Water.	6. Water.
D. Substances destined for the production of animal heat and for nutrition	$\left\{ \begin{array}{l} 7. \text{ Treacle or starch.} \\ 8. \text{ Sugar.} \\ 9. \text{ Gum.} \end{array} \right.$	$\left. \begin{array}{l} 7. 0. \\ 8. 0. \\ 9. 0. \end{array} \right.$
E. Substances expelled with the excrement	$\left\{ \begin{array}{l} 10. \text{ Ligneous,} \\ \text{cellular.} \end{array} \right.$	10. 0.

I may remark that meadow hay contains besides, a volatile stimulant oil, and that oats furnish a resinoid excitant principle residing in its husk.

This simple table, then, shews that natural grain and hay is capable of furnishing to the blood, and consequently to the organism, the assimilable substances which normally enter into its composition.

But, is it so with the artificial grains and grasses? Here is the result of the analyses of Braconnot, Dumas, Cahours, Lassaigne, and Clennel:—

ARTIFICIAL GRAIN AND FODDER.		BLOOD.
A. Assimilative Products	$\left\{ \begin{array}{l} 1. \text{ V.} \\ 2. \text{ Legumine } \left. \begin{array}{l} \text{caseine} \end{array} \right\} \begin{array}{l} \text{Vegetable} \\ \text{Albumen} \end{array} \\ 3. \text{ Fat} \end{array} \right.$	$\left. \begin{array}{l} 1. \text{ Fibrine} \\ 2. \text{ Albumen} \end{array} \right\} \text{ Globules with Iron}$
B. Salts	$\left\{ \begin{array}{l} 4. \text{ Lime, Potash, Soda,} \\ \text{Magnesia} \\ 5. \text{ Salts of Iron} \end{array} \right.$	$\left. \begin{array}{l} 4. \text{ Lime, Potash, Soda,} \\ \text{Magnesia, \&c.} \\ 5. \text{ Salts of Iron} \end{array} \right.$
C. Vehicle	6. Water	6. Water
D. Substances destined for the production of animal heat and for nutrition	$\left\{ \begin{array}{l} 7. \text{ Starch} \\ 8. \text{ Sugar} \\ 9. \text{ Gum} \end{array} \right.$	$\left. \begin{array}{l} 7. 0 \\ 8. 0 \\ 9. 0 \end{array} \right.$
E. Substances expelled with the excrement	$\left\{ \begin{array}{l} 10. \text{ Ligneous,} \\ \text{cellular} \end{array} \right.$	10. 0

From this it is manifest that one essential vegetable organic principle is wanting in leguminous grain and fodder, which is the *gluten* or *vegetable fibrine*, necessary to the composition of the blood; whilst two of the essential principles, the legumine and the caseine, exist in so large a proportion, that the dose of azote furnished by them is even greater than is contained in the most nutritive of the cereal grains.

Physical examination of the blood of animals long fed upon leguminous provender in abundance, presents, in comparison with the blood of animals fed upon meadow hay and oats, remarkable differences in the relative proportions of its fibrine, albumen, globules, and serum. But these we need not notice.

With the view, however, of appreciating the physical condition of the blood of horses who, though in health, are predisposed to take disease, I have collected blood drawn from such in a blood-measure (*hématomètre*), and have found that, in comparison with blood taken from a horse in health under other hygienic conditions, it differed as follows:—

BLOOD OF HORSES IN FULL HEALTH.

1. Colour, deep bright red.
2. Separation of the white clot from the black in from 16 to 18 minutes.
3. In a column 100° of height, white and black clots, each marking 50°.
4. Coagulum quite firm in from 30 to 40 minutes.
5. Contractions of the white clot, and expression of a quantity of serum, marking 50° in a blood-measure of 100°.
6. Globules, nothing remarkable.

BLOOD OF HORSES PREDISPOSED TO DISEASE.

1. Colour, dull red.
2. Separation of the white clot from the black in from 12 to 14 minutes.
3. In a column 100° of height, white clot marking from 60 to 65, black rising to 40 and 45°.
4. White coagulum remaining of the consistence of tremulous jelly for two or three hours.
5. Clot feebly contracting, and giving expression but to a very small quantity of serum, rising no higher than 15 to 20°.
6. Globules, nothing remarkable.

We may, therefore, conclude from what has passed—

1st.—That the blood, to preserve its normal condition, should experience continual renewal from aliment containing such elements as are necessary to its healthy constitution.

2dly.—That the fodder and grain provided by nature contain these organic principles; while such aliments as are the produce

of artificial culture of leguminous plants contain none of the organic principle so important to the normal constitution of the blood, viz. the *gluten* or *vegetable fibrine*.

3dly.—That, under the influence of such alimentation, continued for a great length of time, to the almost exclusion of any other, the blood undergoes profound modifications, giving rise to grave disease, such as I have attempted to describe.

4thly.—That such alteration becomes physically evident through particular characters impossible to be mistaken.

5thly.—That, nevertheless, it would be useful to ascertain, by chemical and ponderic analysis of the blood, if there exist any *anormal proportion of albumen* in the organic constituents of the blood of animals suffering under the disease.

Recueil de Med. Vet., Sept. 1851.

[To be continued.]

Home Department.

THE LAW OF WARRANTY.

“A horse! a horse! my kingdom for a horse!”

IF we should ever be seized with a desire to prove to ourselves the fact, that human beings have no consciences, we should commence by making a tour of the various law courts at the time horse causes were being heard; and if at the end of a dozen cases we did not become perfect converts, we should forthwith conclude that we were not open to conviction, and give up the attempt in despair. Hard swearing in horse matters has become proverbial. Perjury of the blackest die a commonplace affair. The most unbiassed observer in listening to a case would be puzzled to decide, when men of apparently equal respectability swear against each other with the most reckless indifference; until we are forcibly reminded of the reply of a certain celebrated barrister, who, when asked in reference to a cause, “will an action lie?” answered, “Yes, if all the witnesses will lie too!”

The law of warranty, as it stands at present, is supposed to guarantee the purchaser of a horse against the ignorance or duplicity of the dealer of whom he purchases. It is usual to have specified on the receipt, that “the animal is sound, and free from vice:” occasionally, certain clauses are inserted for

obvious blemishes, giving security against any evil effects from them. Such warranties are "special." A popular delusion prevails, that warranties to be legal must be *written*. It is not so: a verbal warranty from the owner or his agent, or even an implied warranty, is perfectly legitimate; always, of course, premising that it can be proved; and a written warranty is technically more valuable on this account, and on this account only. The security obtained by possession of a warranty is, after all, exceedingly small; since, to enforce it, necessitates an appeal to law, involving much trouble and expense, and being attended with that "glorious uncertainty"—

"That makes us rather bear the ills we have,
Than fly to others that we know not of."

In the hands of the capricious, it is often used to the annoyance of the dealer, compelling him to receive back an animal which the fancy of the purchaser has been prejudiced against, or, in the event of refusal, to incur a loss of patronage, in itself of more worth than the horse in question. But the same thing would follow providing no warranty existed: plenty of horses are returned without any appeal to the warranty at all. A purchaser takes a dislike, justly it may be or otherwise; the dealer feels compelled to receive again the purchase without demur, either from a conscientious feeling of the justice of such proceeding, or from fear of losing a valuable customer. It must be apparent that the law of warranty is a dead letter in such instances as these; the question not being what may be done by a purchaser who has either just confidence in the merchant's honesty or his own influence. It is not what men may do by mutual arrangement, but what can be legally insured? It is not what may be obtained as a favour; but what may be demanded as a right.

In this light alone is the subject to be considered: in commercial transactions men cease to be friends, each party has a right to attend to his own security, and to see that the terms of contract are such as to prevent any undue advantage being taken.

As a legal instrument, we conceive a warranty to be totally inadequate to effect the purpose intended. Let us assume a case:—A person purchases a horse with the usual warranty of soundness and freedom from vice; possibly a special warranty is added, referring to some existing defect. In the hands of the new owner the horse becomes vicious, and in addition, lame. Professional assistance is called, the animal is pronounced unsound from the very defect for which a special warranty has been given, persons come forward to assert that the animal has shewn restive propensities on several occasions. Under these circumstances the purchaser endeavours to return him; but the

dealer, not being convinced of the justice of the request, nor having any motive which renders it advisable to avoid giving his customer offence, declines to receive the animal. At this point we perceive the use, if any, of the warranty. Its provisions being definite, there would seem to be no doubt as to the result. The horse in dispute is sold by public auction, and an action brought for recovery of the difference. At the trial, the plaintiff's witnesses, of course, swear "pro;" the defendant's in stronger muster swear "contra," and the plaintiff, to his inexpressible astonishment, loses the cause. This is a type of constantly occurring cases, and serves to shew the extreme uncertainty of any legal proceedings in such matters. We might, however, fairly consider that professional evidence as to soundness would always be consistent; that however common witnesses might swear against each other, veterinary surgeons, in speaking of anatomical points or cases of disease, would as a rule be unanimous; but the rule is just the other way. We know no evidence more conflicting than professional evidence: the cause of this must be either "ignorance" or dishonesty. We are quite aware of many cases where differences of opinion are to be expected, such as instances of obscure lameness, duration of a disease, or the probable effects of such disease; but what we complain of is the opposition and hard swearing in matters where no two opinions should be tolerated—in matters of fact.

The way, it may be said, to remove much of this is to take the opinions of men known in the scientific world as being most likely to grapple successfully with obscure questions. In our innocence we once thought so too; but we have lived to see the delusion dispelled: science in a court of justice is a nonentity. To perpetrate a witticism on the name may be compatible with the dignity of a judge. The evidence of the village farrier, who is "celebrated for diseases of bone," is held equal to that of the scientific man. "Experience" is the talisman: let the witness be a practical man, and he may talk of "*thickening of the integuments between the skin and the bone*," or any other nonsense of an equally choice character, with impunity. The judge and jury are not anatomical in their ideas; they cannot appreciate the ignorance displayed of the very alphabet of science; they are swayed by the experience and number of the witnesses, not by their attainments, because they cannot understand them.

"My Lord and Gentleman of the Jury," said a learned counsel, "I bring six professional men who swear the horse is sound; I am confident of your verdict;" but, replies the opposite counsel, "My lord, I have ten respectable men who swear he is unsound. I have no doubt of your decision being in my favour."

We have not sufficient assurance to imagine that we can

propose an infallible remedy ; but we have no doubt whatever we can suggest something to materially lessen these evils.

Let the system of warranty practically cease—let every dealer refuse to take any responsibility—let every purchaser seek the opinion of a qualified man as to the animal's soundness—and “horse causes” immediately become “few and far between.” Provided a purchaser shall have unlimited confidence in his own judgment, he takes the consequences. All parties, we are convinced, would be in a better position—the merchant would be more independent—the purchaser would be certified of the horse's condition at the time of purchase, while the members of the veterinary profession would gain very materially ; for, it cannot but be allowed that every time they appear against each other in the witness box, they by no means tend to elevate their profession in the estimation of the public.

Cirencester and Swindon Express.

THE VETERINARIAN, MARCH 1, 1852.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

WE congratulate our Council on the successful issue of the labours of their Registration Committee. Through their united and continued exertions, a Register of the Members of the Veterinary Profession has, it appears, been produced, such as no former period of our history could boast of, and which cannot fail to prove of great service to the present and succeeding veterinary generations. While the new Register is vastly more comprehensive than any former one, its accuracy is guaranteed ; whereby it is rendered, at once, a reference little calculated to disappoint the hunter after names, with the additional value of what is found in its pages being implicitly to be relied upon. The insertion of the names of deceased members, sufficiently distinguished by being in italic type, has been prudently included in the registry, as serving, not merely to satisfy the search of the curious, but also, as stated in the Report of the Committee, “for the purpose of identification,” i. e., to mark distinctions between living and dead members of the same name, and, perhaps, of the same family ; identities but too calculated to pave the way to mis-apprehension and fraud.

In reference to the "Exemption Bill," the Council have, in our opinion, sagaciously decided on not just immediately bringing it forward. In the present uncertain condition of their own concerns, the Houses of Parliament have too many and too grave matters to deliberate upon to devote any attention to private or professional "Bills." Before the period deemed favourable for appeal to parliament shall arrive, however, it is quite right that the Council should be prepared for the movement they intend to adopt. Representation and remonstrance must be carried to their legitimate extent, and this may be followed up by petitioning; though petitions, now-a-days, are so notoriously little attended to in the "House," that, unless special attention be directed to them, they are likely to "lie on the table," little heeded, or all but unnoticed. We think that, in the case of the veterinary surgeon, the same pleas might be urged for "exemption" as in that of the surgeon; for, though in the latter case they, of course, carry with them paramount vital concern, still life is at stake in both cases, and most certainly ought, in the case of the horse even, at the least to be *cared for*; if not on the score of humanity, on that of the value set on him—which occasionally is great—by the owner of the animal. Is the life of a valuable horse to be perilled and set at nought through the veterinary surgeon being called away to sit on a jury, or serve in some parochial office? We think it ought not, and we feel assured we do not here think alone. Let us, then, endeavour to enlist *horse-men* in our cause—all M.P.'s who know horses well enough to estimate their worth, and set a due value upon them. Proprietors of valuable studs, and masters of large establishments of every denomination wherein horses in large numbers are employed, would be the persons most likely to aid our cause; while theirs are the most fit and influential names we could obtain to our petitions. Were its objects properly set forth on our side, and understood and appreciated on the other, we should entertain no apprehensions for the success of the Bill save what arose from opposition, no more definable in nature than calculable in extent.

WE are somewhat surprised that the Council should have passed over unnoticed certain veterinary appointments which

have recently taken place in the East India Company's service, and our own, of persons who have not received diplomas from the Royal College of Veterinary Surgeons. We can only account for such silence on the supposition that measures are being concocted to represent, in the proper quarters, the expediency of candidates for such services undergoing the ordeal of Examination of the *Chartered* College of Veterinary Surgeons.

PROCEEDINGS OF THE COUNCIL OF THE ROYAL
COLLEGE OF VETERINARY SURGEONS.

QUARTERLY MEETING, JANUARY 30th, 1852.

Present — The PRESIDENT (in the Chair), Messrs. BRABY, BURLEY, CHERRY, A. CHERRY, ERNES, HENDERSON, SILVESTER, STOCKLEY, WILKINSON; Professors SPOONER, SIMONDS, MORTON; and the SECRETARY.

THE minutes of the previous meeting were read and confirmed.

Mr. A. Cherry read the following report from the Registration Committee :—

To the Council of the Royal College of Veterinary Surgeons.

THE Registrar has to Report, that, with the assistance of the Committee, and after many months' assiduous labour, a Register of the members of the body corporate is now completed and laid before the Council.

That, the Register includes those who have received diplomas from the first granting of such documents by the Royal Veterinary College, in the year 1794, and the Edinburgh College from its foundation in 1828, to the year 1844 inclusive. Also those who have received diplomas under the Charter of Incorporation from March 1844 to January 1852 inclusive.

In the prosecution of these labours, the Committee found that there were not any records of examinations from April 1801 to December 1804, it being very doubtful if any such records had been kept. Also that the Records of Examinations for the years from 1813 to 1819 were mislaid; it is, however, possible that such may be recovered, it being clear that they were correctly kept during this period.

In consequence, it has been an extra work of great labour to make out a list for those periods; but it is believed that there are very few, if any, omissions of members of the London College.

In every case the residence given has been that last known

to the Registrar or Committee, though in many instances such residences are erroneous, as also in those cases in which only the place from whence a member came they have been retained for more complete identification.

As changes of residence are daily occurring, it is impossible to make this part of a Register correct for any period, however short.

It has been an object to collect together the names of the whole of the members, whether living or dead, as it has come to knowledge that the diploma of a dead graduate has been made use of by others, and passed off as their own.

Every member known to be dead has the name printed in italics; but it is believed that there are many more that ought to be so placed, but in the absence of any *certain* knowledge it has been deemed prudent to let them remain.

The list of the members from the Edinburgh College is incomplete for the years 1841 to 1844 inclusive: the returns for those years not having been placed at the disposal of the Committee when applied for.

Wherever the date has been doubtful, it has been indicated by a note of interrogation. Some of these may probably not be cleared up, but the greater part ultimately will be.

The Registrar must acknowledge most particularly the assiduous labours of the Committee, without whose unflinching exertions, regardless of personal inconvenience, the work could not have been brought so early or so perfectly to a conclusion. And it must not be omitted to state, that Professor Sewell, though not a member of the Committee, has given great and valuable assistance.

The Registrar has to acknowledge the liberal manner in which the records of the Royal Veterinary College have been placed at the disposal of the Committee.

The labours of many country members, in seeking out and communicating information, must not be passed over without notice; but the Registrar is sorry to say, that some to whom applications were made had not the courtesy to reply.

ARTHUR CHERRY, *Registrar*.

He also laid on the table a copy of the New Register. He stated that there were in the Register 770 names more than were contained in any former list: some of these being the result of the last two years' examination by the Board of the Royal College of Veterinary Surgeons, and the remainder the result of investigations into the records of the Royal Veterinary College. By these researches, and which had been made with the greatest care, many previous errors had been corrected; and every name that was entered had been shewn

upon conclusive evidence to be that of a member of the body corporate. The names of dead members had been inserted in the list, for the purpose of identification, as many persons of the same name and family had entered the profession. It had likewise been discovered, that some persons were practising with the diplomas of deceased veterinary surgeons, and others under a certificate granted by the Veterinary Medical Society.

It was moved by *Mr. Ernes*, and seconded by *Professor Spooner*, that the Report be received and adopted—which being done,

Mr. Silvester moved a vote of thanks to the Committee.

Mr. Burley seconded the motion, which passed unanimously.

Professor Simonds, in acknowledging the compliment on the part of the Committee, explained some of the difficulties they had had to encounter in compiling the Register; making special allusion to those which had arisen from the frequent recurrence of similar names, and the withholding of information by members who, from the position they occupied, were well able to furnish it. He concluded by thanking those members of the Council who had rendered their assistance to the Committee.

Mr. Arthur Cherry said, that, having carried out the object that was entrusted to him, he now begged to tender to the Council his resignation as Registrar. Had he contemplated so much opposition and ill feeling as he had experienced, he never should have entered upon the office. He had, however, in spite of all difficulties, brought his labours to a successful termination in the completion of that which he had undertaken; but he was desirous that what was past should be forgotten. He had worked happily and pleasantly with his colleagues, without any dissension or opposition. He therefore begged most respectfully to tender his resignation into the hands of the Council, trusting that they would appoint a successor who would act with as much, he could not say with more, good feeling as he had done.

Professor Spooner, after complimenting the Registrar on the efficiency with which his duties had been performed, expressed his opinion that it would be needless (at present at least) to choose a successor, inasmuch as the main reason for such appointment no longer existed. The duties of the office for the next few years would be trifling, and might easily be performed by the Secretary; and when the time arrived for a complete revision of the Register, a committee similar to the last could be formed for that purpose.

The Registrar's resignation having been accepted by the Council,

Professor Spooner proposed a vote of thanks to that gentle-

man for the able and efficient manner in which he had performed the duties of his office. With the assistance of the Committee, he had brought order out of chaos, and in so doing had conferred a boon upon the profession at large.

The Secretary could not allow any one else to second the motion, because no one could have had such opportunities as himself of witnessing the energetic labours of the Registrar and the excessive opposition and annoyance to which he had been subjected while honestly and faithfully performing the onerous duties of his office. He had met with contumely and insult where he ought to have received thanks and assistance; and the higher the quarter to which he had applied the greater had been the indifference with which his applications had been received; and he was convinced that the man who, in the face of such opposition, humiliating silence, and contempt, would complete his labours in the manner indicated by the list which had been laid upon the table, deserved the heartiest thanks that could be tendered to any individual.

Professor Morton corroborated the statement of the Secretary, and said that he should have gladly seconded the motion had not Mr. Gabriel done so.

The motion having passed unanimously,

The President, in conveying the thanks of the Council to Mr. A. Cherry, begged to add his own, for the manner in which he had performed the duties of his office.

Mr. A. Cherry, in acknowledging the vote of the Council, said he should only remember the pleasant termination of his period of office. He received every expression of thanks with the same feeling by which it had been dictated.

After several suggestions from members of the Council, respecting the circulation of the Register, it was resolved—

“That the President be requested to cause issue to be made of copies to such parties as he may think fit.”

The Treasurer handed in the financial statement, shewing a balance in the banker's hands, after orders had been given for the payment of the current expenses of the quarter, of £337..3s..10d.

The following report from the Exemption Bill Committee was laid on the table:—

Report from the Exemption Bill Committee.

The Committee have prepared forms of Petitions for both Houses of Parliament, in support of the privileges to be applied for.

Also a circular, to be sent to members of the body corporate, requesting that petitions be prepared, and signatures obtained

thereto. Copies of these are laid on the table, as also the Bill, as proposed to be amended.

A List of those Members of the body corporate to whom it would be desirable to apply to aid in the attainment of the object, has been also drawn up.

In the present aspect of political affairs, however, it appears to the Committee desirable to pause for a short time before more active measures are pursued.

ARTHUR CHERRY,
Secretary to the Committee.

Sir,—THE application during the last Session of Parliament for a Bill of Exemptions having failed from unforeseen obstacles, the Council of the Royal College of Veterinary Surgeons have re-appointed the former Committee, to take further measures for the attainment of so desirable an object.

By the direction of this Committee I have the honour to solicit your cordial co-operation, in the first place, by the obtainment of Petitions in favour of the Bill; and, secondly, by the exertion of such personal influence as you can command, either with Peers or Members of Parliament, in order to ensure their support.

I annex a form of Petition for each of the Houses of Parliament, which the Committee are desirous you should cause to be legibly written, and as many Signatures obtained to it as possible, taking care that all the Signatures are written on the same sheet of paper as the Petition, and on one side only.

The Committee are desirous that, when circumstances permit, the phraseology of the Petition should be altered, without, however, deviating from the general form and prayer.

It is requisite that you place the Petitions for Presentation in the hands of those who will support its prayer, and that you also inform the Committee of the number of Signatures you have been able to obtain to each Petition.

I have the honour to be, Sir, your's very obediently,

31, Gresse Street, Rathbone Place,
London, January 1852.

ARTHUR CHERRY,
Secretary to Committee.

To the Right Honourable the Lords Spiritual and Temporal, in Parliament assembled.

THE HUMBLE PETITION of the undersigned Inhabitants residing at and its neighbourhood, in the County (or Counties) of

Sheweth,

THAT your Petitioners, being Proprietors of Horses, Cattle, and other domesticated Animals, have to avail themselves of the professional services of Veterinary Surgeons when such Animals are suffering from disease or accident.

THAT your Petitioners sustain heavy losses from the present state of the law as affecting Veterinary Surgeons.

THAT diseases of an epizootic nature are often very prevalent among Animals, frequently without shewing premouitory symptoms, and it not unfrequently happens, when your Petitioners' Horses, Cattle, or Sheep are thus suddenly attacked, that the Veterinary Surgeon cannot give his immediate personal attendance, having been summoned to a distance to serve on Juries, at the Assizes or Quarter Sessions, or engaged in discharging the duties of Parochial, or other offices.

YOUR PETITIONERS therefore pray that your Honourable House will pass such a Law as will relieve Veterinary Surgeons from their present liability to such duties,

And your Petitioners will ever pray, &c.

To the Honourable the Commons of the United Kingdom of Great Britain and Ireland, in Parliament assembled.

THE HUMBLE PETITION of the undersigned Inhabitants residing at _____ and its neighbourhood, in the County (or Counties) of _____

Sheweth,

THAT your Petitioners, being Proprietors of Horses, Cattle, and other domesticated Animals, have to avail themselves of the professional services of Veterinary Surgeons when such Animals are suffering from disease or accident.

THAT your Petitioners sustain heavy losses from the present state of the law as affecting Veterinary Surgeons.

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YOUR PETITIONERS therefore pray that your Honourable House will pass such a Law as will relieve Veterinary Surgeons from their present liability to such duties,

And your Petitioners will ever pray, &c.

A Bill intituled an Act to exempt Veterinary Surgeons, and Professors and Teachers of Veterinary Colleges or Schools, from serving on Juries and other Offices.

WHEREAS by Letters Patent, bearing Date at Westminster the Eight Day of March in the Seventh Year of the Reign of Her present Majesty, reciting (among other things) that Thomas Turner, William Joseph Goodwin, Thomas Mayer, William Dick, William Sewell, Charles Spooner, and James Beart Simonds, by their petition, humbly represented that the Royal Veterinary Colleges of London and the Veterinary College of Edinburgh have been established for many Years for the Education of Students in the Veterinary Art, and that the Petitioners have been Pupils at the said Royal Veterinary College of London, which was established in the Year Seventeen hundred and ninety-one; that the said College was instituted to improve the Veterinary Art; that the Institution had been of great advantage to the Country and to the Royal Army; that said Petitioners had been at considerable Expense in Payment of the necessary Fees until they obtained a proper Certificate or Diploma; and that nearly One Thousand Members who graduated at the Veterinary Colleges of London and Edinburgh are practising as Veterinary Surgeons: And whereas in and by the said Letters Patent it is willed, granted, ordained, and declared that the said Thomas Turner, William Joseph Goodwin, Thomas Mayer, William Dick, William Sewell, Charles Spooner, and James Beart Simonds, with such other Persons as hold Certificates of Qualification to practice as Veterinary Surgeons granted by the Royal Veterinary College of London or by the Veterinary College of Edinburgh respectively, and such other Persons as now are or may hereafter become students of the Royal Veterinary College of London or of the Veterinary College of Edinburgh, or of such other Veterinary College, corporate or unincorporate, as now is or hereafter shall be established for the purposes of Education in Veterinary Surgery, whether in London or elsewhere in the United Kingdom, and who shall pass such Examination as may be required by the Orders, Rules, and Byelaws framed and confirmed pursuant to the said recited Letters Patent, be Members of and form One Body Politic and Corporate, by the Name of the Royal College of Veterinary Surgeons: And whereas the said recited Letters Patent do further declare and grant that the Veterinary Art, as practised by the Members of the said Body Politic and Corporate, shall be henceforth deemed and taken to be and recognised as a Profession, and that the Members of the said Body Politic and Corporate, solely and exclusively of all other Persons whomsoever, shall be deemed and taken and recognised to be

Members of the said Profession, or Professors of the said Art, and shall be individually known and distinguished by the Name or Title of Veterinary Surgeons: And whereas Veterinary Surgeons, and the Professors and Teachers of Veterinary Colleges and Schools, are compelled to discharge the Duties of County, Parochial, and other Offices, and serve on Juries, Leets, and Inquests, which is highly detrimental to the Interest of their Profession, and very injurious to the Proprietors of Horses, Cattle, and other domesticated Animals; and as there is no Law to relieve them from such Duties and Services, it would be expedient that an Act should be passed exempting them from the Duties and Services aforesaid: Be it therefore enacted by the Queen's most Excellent Majesty, by and with the Advice and Consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the Authority of the same, as follows:

That from and after the passing of this Act Veterinary Surgeons actually practising in any Part of the United Kingdom, and the Professors and Teachers of Veterinary Colleges and Schools recognized by the said recited Letters Patent, and the Professors and Teachers of Veterinary Colleges and Schools which shall be established for the Purposes of Education in Veterinary Surgery in the United Kingdom by Authority of the Crown, are hereby absolutely freed and exempted from serving any Parochial Office, and from being returned and inserted in the Lists to be prepared in pursuance of the Provisions of an Act passed in the Sixth Year of the Reign of His Majesty King George the Fourth, intituled "An Act for consolidating and amending the Law relating to Jurors and Juries," notwithstanding any Prescription, Grant, Writ, or Statute to the contrary.

The Secretary having read the last clause of the Exemption Bill, in which an alteration had been made, limiting the exemption prayed for to parochial offices and juries,

The President said he thought that one reason why the bill was lost last session was, that the exemptions sought for were so numerous.

Mr. Wilkinson was of opinion that, before any further expenses were incurred, we ought to endeavour to remove those oppositions with which we have now to contend. When the proper time arrived he intended to move that a deputation be formed to wait upon the Secretary of State for the Home Department, or some other member of the Government, to ascertain its views on the subject; for he held it to be worse than futile to press our application if still opposed by the Government.

A brief conversation followed, and it was considered expedient that no immediate steps should be taken with reference to this measure.

Professor Morton gave notice of a motion respecting the division of the Board of Examiners; and the proceedings terminated by *The President* naming Professor Simonds, Mr. Wilkinson, and the Secretary, as the Committee of Revision.

J. WILKINSON,
J. B. SIMONDS.
E. N. GABRIEL,

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CALCULUS IN THE INTESTINE,

OBSTRUCTING ALL PASSAGE, AND PRODUCING SEVERE PAROXYSMS OF PAIN, UNDER WHICH, THOUGH SOLID FOOD OF EVERY KIND WAS REFUSED, LIFE WAS BY WATER ALONE SUSTAINED FOR THIRTEEN DAYS.

By W. PERCIVALL, M.R.C.S. and V.S.

THE subject of the extraordinary case I am going to relate was a grey troop horse, ten years of age, in excellent health and condition at the time he was taken ill; who in his younger days had shewn some viciousness of disposition, and was indeed, after being broke in the riding-school, considered any thing but steady or obedient in the ranks.

On the morning of the 16th December 1851, he was admitted into an infirmary box for being "off his feed" and having a "scouring" on him. Some hydrarg. cum cretâ et ipecacuanhâ, in little cordial mass, was given by way of correcting this bowel disorder, which by the next morning, without any repetition of the diarrhœa, had subsided.

THIS MORNING (THE 17TH), however, although the horse had ceased scouring, he had become evidently uneasy from abdominal pain, a malady he had not before given any signs of. The pain rapidly grew sharper and sharper, until he was found labouring under a regular paroxysm of "gripes." The usual antispasmodic draught was now administered; and, as he had passed nothing *per anum* since scouring yesterday, he had a common enema given him with Reid's patent syringe; the most effectual—or rather only really effectual—instrument, in my opinion, for serving an enema. This not succeeding, either in tranquillizing him or soliciting any evacuation, he was back-raked. All, however, to no purpose.

Conceiving it possible—though such a failure hardly ever happens—that the Barbadoes aloes contained in solution in the antispasmodic draught, which had several times been repeated,

might not be of sufficient potency for the case—whatever its nature might be—I ordered a scruple of croton powder, floating in half a pint of linseed oil, to be given; and at the same time I had the abdomen, after long fomentation, thoroughly rubbed with compound turpentine liniment into which powdered mustard had been stirred. This produced irritation and annoyance, but had no effect, save in that temporary manner, in relieving the pain.

The next remedy made trial of was tobacco, which was administered both in the form of enema and draught; the fumes serving for the former, while by mouth a strong infusion was given.

Laudanum, ether, turpentine, aloes, croton and linseed oil, having all failed in conferring relief, I would have drawn blood, had not such depletion been manifestly uncalled for by the unaltered condition of the pulse, which, save that it might have risen to 45 or even to 50, had nothing about it to indicate the presence either of inflammation or spasm. My next resource was to try—what I had more confidence in—calomel and opium: $\mathfrak{D}\text{ij}$ of the former combined with $\mathfrak{D}\text{j}$ of the latter were given in ball every three hours, it being my determination now, if possible, to make the mouth sore. While this medicine was being taken, on one occasion I had my patient taken out of his box, and subjected to the shocks of cold water dashed against his belly with all the force a man could exert with a pailful in his hands. Still, no good. On another occasion, at the suggestion of my friend Mr. Wilkinson, of the 2d Life Guards, wet rugs covered with dry ones, after the manner of hydropathy, were strapped round his body close to his skin. This made the surface of the body hot, but excited, I believe, no actual transpiration. Still, nothing had passed from him, save that he staled, as he had done all along, freely enough on occasions.

Having made these remarks on the treatment pursued—which of course could avail nothing as the case turned out, and can here answer no other purpose save that of shewing what is usually had recourse to in cases of obstinate constipation—I shall now present a general summary of the symptoms, with such passing comments on them as may seem anywise illustrative of the case.

The animal was, as has been observed, in the first instance seized with scouring, which was evidently accompanied with a sense of illness; for, though no actual pain was manifested at the time, he became dull and listless, and went off his feed. He had one full, and a second scanty, liquid motion after his admission into hospital; after which nothing passed *per rectum*, save occasional puffs of *flatus*, and they but weak and small, up to the day of his death. The symptoms of *acute* pain did not set in until the day after his admission, and for the two or three

succeeding days were no other than denote simple "gripes;" not in its very worst character, yet violent enough to raise sufficient alarm to keep persons continually on the watch about him, as well as to urge the expediency, from time to time, of employing fresh or more potent remedies to elicit catharsis. His most constant symptom was pawing; and, while doing so, nothing pleased him more than continually dipping his muzzle into the pailful of water hanging up in his box, and shaking the pail about, by which he spilt instead of drinking the water. At times he would lie down, and while down frequently roll upon his back, and in that position remain with his legs in the air for ten or twenty minutes together, whenever he could manage to prop himself up by reclining his upraised limbs against the wall of his apartment. On occasions, he would sit upon his haunches after the fashion of a dog, and extend his fore limbs straight out in front of him: another change of posture, which seemed to afford him relief for a time. Every now and then he uttered deep sighs, occasionally amounting to groans; and this he continued to do all through his complaint, though they became less frequent and sonorous in the latter stages. The respiration underwent no disturbance until quite the last stage; nor was the pulse, as I said before, even during the paroxysms of pain, of a character denotive either of inflammation or spasmodic action. Neither was the mouth hot or dry, nor the tongue anywise particularly altered from the state of health. His appetite deserted him from the first manifestation of pain, and never returned to him: during the thirteen days of his suffering he refused food of every kind, his entire sustenance being water, of which he drank, on an average, about a pailful and a-half in the course of the twenty-four hours.

This horse had been in the regiment six years, during which period he had never been known to ail in any way, either on account of sickness or lameness. The calculus which proved the cause of his death, large and heavy as it was, with all its asperity of surface, never appeared to have occasioned him the slightest uneasiness up to the time of its causing him his last and fatal illness; which was evidently the result of the obstruction it opposed to the passage of the alimentary matters, and not of any irritation its presence otherwise occasioned. This is an important fact to arrive at; and one we can quite understand when we come to find the calculus after death clothed in the alvine contents of the gut, and withal sheathed in the mucous secretion issuing from the internal lining thereof: so that, really, the calculus—which in all probability was moveable from one part to another of the intestinal canal—rolled about in a bed of mucus, by which the sensitive bowel was effectually saved from any hurt or annoyance.

Another circumstance worthy our attention in the case before us is, that of a passage having become established through the all-along obstructed intestine a few hours antecedent to death. The calculus, which was found within the first flexure of the double portion of the colon, notwithstanding its magnitude, did not completely fill the canal containing it; there was still space enough around it for the passage of liquid fæces, and yet none passed until life was about to depart. This appeared to be readily explicable on the supposition that the gut had contracted upon the calculus, and by so doing had closely embraced it on all sides, and in this manner had obliterated all vacant space between itself and the stone.

The calculus proved to be one of the ammonia magnesian phosphate class. It is of a dung colour, of a rugged exterior, of an irregular spheroid shape, and, though hard, is disposed when roughly handled to break or crumble away. It measures 15 inches round, and weighs $1\frac{1}{4}$ lb. To appearance it consists of calcareous substances in combination with alimentary and secreted matters: in other words, it appears made up of particles of hay and oat-husks and fragments of earth and stone, such as are contained in the (Irish) corn, which seem cemented together by the mucous and albuminous secretions from the bowel. Were the calculus sawn in two, it would, no doubt, disclose a nucleus of some kind or other. There existed some inflammation of the portion of intestine in which the calculus was found lodged, and it was pretty intense at that spot, becoming less and less upon the gut as it receded from the calculus: but nowhere was there any appearance of gangrene; indeed, there had been no distention to produce such a change. There was not a solid portion of dung to be found in the whole alimentary canal; and the contents, liquid as they were, were everywhere imbued with the colouring and odour of medicine. The stomach was half full of chymous medicated fluid.

The length of time this animal subsisted upon water alone is worthy a note; and in regard to it, I may mention an observation made to me at the time the animal was in the midst of his suffering by a by-stander, that he had a horse that died under the same privation, and that survived *thirteen* days. Is the thirteenth a *critical day* in such cases?

ANALYSIS.—Professor Morton, of the Royal Veterinary College, has most kindly examined the calculus for me. Its general composition he finds to be—

1, *Crystallizable salts*, which are the phosphates of magnesia and ammonia;

2, *Matters separable by the filter*, which, when dried, shewed under the microscope the presence of broken-up husks of the oat and fibres of hay, mingled with insoluble earthy matters.

ON THE EFFECT OF PRESSURE ON THE FEET OF HORSES, IN REPLY TO MR. REEVE.

By "AMICUS."

"The sciences are not human inventions. Every science has for its basis a system of principles, as fixed and unalterable as those by which the universe is regulated and governed. Man cannot make principles; he can only discover them."

To the Editor of "The Veterinarian."

Sir,—MY object was to induce Mr. Reeve to reconsider this subject in the same manner he did at p. 198, in THE VETERINARIAN for April 1850, and my reasons were these: Mr. Reeve there gave "the base and perpendicular to find the hypotenuse of the sole." I knew there could not be a sole having for its perpendicular 5 of an inch, unless it had permanently descended 3 of an inch, i. e., had become in this degree a flat sole; the perpendicular of a sole at this part, in a foot 5 inches wide, being 8 of an inch.

Again, the crust is passive; the sole is the agent acting upon it, and, therefore, should alone have formed the bases of the right angled triangles. The statement should have been, base 1 inch, 8 perpendicular 8 of an inch less, 6 of an inch equal to 2 inches, the square of which is 4, equal to the square of the hypotenuse.

There, again, the frog should have been retained, and the bases of the triangles should have been carried across the foot; as it thus shews, by descent of the hypotenuse, the degree of downward pressure on the frog, that Mr. Gloag was so particular in describing as the results of his experiments; and which is one of the differences, a very important one, in Mr. Gloag's physiology, from that of the late Professor Coleman, who considered counter-pressure of the ground against the frog as the means of expanding the upper part of the heels and quarters, which is its *secondary* use, when it does happen. Mr. Gloag has proved that its *primary use is its descent*, and in this he also differs from Mr. B. Clark, who considered the use of the frog to admit of lateral expansion of the heels, from heel to toe, like a hinge shoe. Mr. B. Clark, at his lecture in 1813, held in one hand the crust and bars, from which the sole and frog had been removed by maceration, and put the fore-finger of the other on the point of the bars, and by pressure opened the heels in the above described manner, by the opening of the commissures, and Mr. Reeve closes his paper with the same theory. Here the circumstance of the sole abutting against

the crust, and expanding the crust on either side the toe, is *entirely overlooked*, on the supposition that it *expands the heels only*.

The late Professor Coleman also considered that the sole descended, particularly at the heels, or corn places; that is, he begged the question in heavy horses; for in light horses he knew, as an anatomist, that it was an impossibility; therefore expansion of the heels could not happen in this manner. Now, Sir, I believe these to be mere errors of description. We should be thankful to these talented gentlemen for the knowledge we derived from them; but surely there is no reason why inquiring minds, like Mr. Gloag's and others, should be prevented by these *supposed* axioms from better explaining the physiology of the foot, *if they can do so*, when they practically know that in many horses' fore feet even there is not the least inclination to spread or increase the base.

I doubt not that certitude has resulted from the experiments of others. I would not even deny the description of facts, but endeavour to trace out the causes. Mathematical certainty would give only the same results, *under similar varieties and states of the foot*. For instance, the proof of the rule given by Mr. Reeve is "the hypotenuse given, to find the base and perpendicular." Half the width of the hoof gives the length of the longest laminæ, and one-sixth and a half of this half width, the depth of the coronary concavity at the toe, and the length of the laminæ and depth of coronary concavity at the heels is one-fourth that of the toe. Now, the weight of the horse is supported by these, and the pressure is, therefore, in the ratio of four at the toe to one at the heels. In a hoof five inches wide the longest laminæ, &c. or the hypotenuse is three inches, one-tenth the shortest, $7\frac{3}{4}$. The descent of the hypotenuse is $\frac{3}{10}$ of an inch, and the increase of the base thereby is $\frac{1}{10}$ of an inch. The lengths of the intermediate ones are found by the rule of proportion; thus, the hypotenuse half the length is one inch, five and a half tenths causes by descent of the hypotenuse one and a half tenths of an inch, an increase of the base of one-twentieth of an inch; but here, in the proper position of the foot, i. e. at thirty-five degrees from the perpendicular, and the base of the sensible foot, eighty-two degrees from it, horizontal expansion or shelving of the crust ceases at the outer part of a near or off fore hoof; whereas the same part at the inner side of the toe does not expand or increase the base, although it has, from being more under the centre of gravity falling between the fore legs, most pressure of weight. Instead of which, the frog either descends alone, or the upper edges of the bars also, while the lower edges are seen shelving outwards; excepting

the points of the heels, *which always from pressure incline inwards*. The descent of the hypothenuse, $\frac{3}{4}$ of an inch gives pressure on the frog by descent of the navicular bone, less the compressibility of the parts; the external descent, as shewn in Mr. Gloag's experiments, being about one-fourth of an inch in a six inches wide hoof. The descent of the hypothenuse of which is $\frac{4}{5}$ of an inch, or base 3 inches $\frac{2}{3}$, perpendicular 1 inch $\frac{5}{6}$ less 1 inch $\frac{1}{6}$ equal to 3 inches $\frac{5}{6}$, the square of which is $9\frac{25}{36}$, equal to the square of the hypothenuse.

Now, Sir, I am unable to explain this in a more simple manner. When Mr. Reeve and I agree, which I make no doubt we shall, I will afterwards endeavour to put it into shop shape, i. e., by projection, so as to be understood by any reader of THE VETERINARIAN. The calculations would vary in every horse: these are for hoofs with a moderate degree of shelving. It will be seen that, as veterinary surgeons' draftsman, I could not render the results of any person's experiments otherwise than they are. These principles are not mine, but "those by which the universe is regulated and governed."

I have the pleasure to send you copies of diagrams, in duplicate, of sections made by myself—one for Mr. Reeve; but, perhaps, Mr. Reeve will not favour me with a reply, though I believe your Journal is free to fair comments on either side of this question of the physiology of the foot.

I have here anticipated Mr. Reeve's reply; but having since seen his reply to me in your last number, I have only now to assure him, that the manner in which I have done this is a warrant that my communication, through you, was no other than a friendly one. I am further gone than Mr. Turner—I am off the stage; nevertheless, I trust I am sufficiently interested in the advancement of that profession from which, I may say, I still derive my daily bread. Trusting that he will change his opinion of me, I remain, Sir,

Your's faithfully.

P.S.—I could not send by mail without risk of breaking the cast still more.

. Had not this paper been overlooked by us, it would have been inserted in our March number. We beg to apologize to "Amicus" for such omission.—ED. VET.

INVERSION OF THE UTERUS, &c. IN A COW.

By Mr. LEWIS, V.S., Monmouth.

To the Editor of "The Veterinarian."

Sir,—SHOULD the following case merit a place in your Journal, its insertion will oblige.

On the 15th instant I was called to attend a cow, five years old, which "could not calve." Last year she had partial inversion of the uterus, and she was now in the same state—had been straining for some time—had gone a week over the usual time.

Upon making an examination per vaginam, the os uteri was found sufficiently dilated to admit two fingers, but appeared indurated, and very much thickened. Gave Tinct. opii ℥j, aquæ q. s. To have warm mash.

16th.—The pains are more truly propulsive; but the os uteri remains the same, and appears as though a ligature was tightened around its neck. R Ext. hyoscyami ℥ij, aquæ q. s. Ft. mist.

Being obliged to leave, I ordered that, should my assistance be deemed necessary before my return, to send immediately, intimating that the least which could be expected would be inversion of the uterus. Accordingly, I was sent for. She had calved with difficulty, which rendered assistance necessary; and, upon lying down soon after, the whole of the uterus, &c. came out spontaneously.

Upon my arrival I found them filling a large pail, including the uterus, with placenta still adhering, and a portion of the broad ligaments of the uterus, which were torn asunder. It being the wish of the owner to have it reduced, although I held out no hopes of a favourable issue, I proceeded to make the attempt. Every effort was made whilst having the hind quarters bolstered up, but without success. I spoke of amputation having thus succeeded on a former occasion, which, in accordance with the wish of the owner, was performed, but with no good effect; for she, being sinking at the time, expired soon afterwards.

Autopsia.—The os uteri, which was torn into fragments, had a large excrescence in a scirrhus state around its neck, which had evidently acted as a strong ligature. The broad ligaments of the uterus were ruptured, as was also the uterus itself; likewise the vagina, through inversion, and also the rectum.

POSTSCRIPT FROM MR. REEVE.

MY last paper to THE VETERINARIAN thoroughly explained my manner of demonstrating the expansion of the foot. The introduction of figures was only incidental, and by no means necessary to the argument, since the same could have been expressed algebraically, or by a reference to the 47th of the 1st book.

With regard to the question of the descent of the sole, I look upon my experiment with the "harrow" shoe as decisive; and, until it can be shewn that the concave sole can descend *without* expanding the crust, I contend that the question of the expansion of the foot must be considered to have been thereby demonstrated.

If there be any so sceptical as still to doubt the result of that experiment, and to assert that the sole does *not* descend, put it at once to the test. Let a number of experienced gentlemen of the profession, consisting equally of advocates of the two opposite theories, be appointed to carry out, as stated in THE VETERINARIAN for February 1850, my experiments, to the letter. If the descent of the sole be proved, the question will be for ever set at rest. On the contrary, should the experiment fail, I for one shall not be sorry to have my mind disabused of an error which was very reluctantly forced upon it; since it *was in an endeavour to demonstrate the NON-descent of the sole, and to prove Coleman's theory to be incorrect*, that this important action of the foot was so unanswerably forced upon my conviction. So satisfactory did the experiment seem at the time that it was never considered necessary to repeat it.

W. Percivall, Esq.

*** These supplementary observations have been elicited from Mr. Reeve by a private letter he has received through us from "Amicus."

COWS POISONED BY LEAD.

By C. LANCASHIRE.

ON the 2d of August last, Mr. Tipper, of Kniveton, called on Mr. Cox, whose pupil I am, to consult him respecting a cow of his that had, two days previous, swallowed upwards of two pounds of white paint, which had carelessly been left in her way. We prescribed active purgative medicine with carmi-

natives. On the 3d we saw her. She had then the following symptoms:—Pulse very slow and weak; membranes a little injected; skin, horns, ears, legs, &c., of natural heat, though she felt hot in the mouth; nose dry; milk was nearly gone; she would eat, and drink a little. She remained about the same as above described up to the 8th, when she became much worse. The lead had evidently been absorbed into the system. There was stertorous breathing at intervals, coma, &c., reeling about like a drunken man; and sometimes she would push against the wall with all her might, and for about twenty-four hours previous to her death she would fall down very often, as if shot through the head with a ball, and rise again immediately. On the eleventh day from the eating of the paint she died, notwithstanding the most active treatment was pursued. Constipation had never been allowed to take place. I made a post-mortem examination, Mr. Cox having other engagements. All the internal viscera appeared healthy, except the stomach and intestines, and in them the disease was confined to the mucous membranes. The internal coat of the rumen and abomasum was of a leaden colour, and peeled off with the slightest touch. The villous coat of the intestines was diseased more in the form of patches. Mr. Cox tells me he has met with many cases of poisoning with lead, or rather the salts of lead, and that the symptoms, termination, and post-mortem appearances are generally about the same as the case I have just narrated. He once attended four cows in one dairy that died in one week, which were poisoned with red lead. I have omitted to say, that the visible mucous membranes of the cow were blanched before she died.

Ashbourn, March 12, 1852.

DISEASE FOLLOWED BY RUPTURE OF THE LIVER.

By "A STUDENT" at the Royal Veterinary College.

Sir,—I HAVE just perused the practically-interesting Case of Ramollissement and Rupture of the Liver recorded by Mr. Paradise in this month's number of THE VETERINARIAN. I thought that, perhaps, a short account of a similar case brought into the infirmary of this institution yesterday might not prove altogether uninteresting to your readers.

The subject of the disease was a very aged brown horse, used regularly for carriage work up to Sunday last, when, while at work, without any warning, he suddenly fell down, dragging with himself his companion, who is now under treat-

ment for an injury received at the inside of the knee joint upon that occasion. The horse appeared faint, and was with difficulty enabled to reach his stable; but had so far recovered yesterday that he walked to this institution, a distance of five miles. This was about one P.M.

At this time the symptoms were as follow:—Pulse 106, not perceptible at the submaxillary artery, but very distinct at the heart; a peculiarly haggard appearance; respiration somewhat excited; and a cold, clammy perspiration bedewed many parts of the body: both appearing to have been produced by the labour the animal had undergone. The buccal membrane was covered by a clammy secretion, accompanied with an offensive smell, was blanched, and of a yellowish colour. The Schneiderian and conjunctival membranes are both unusually pallid, and also have a slight yellow tinge. The abdominal parietes were very tense, almost tympanitic, particularly on the right side, at the situation of the liver. The animal sighed frequently, gave evidence of uneasiness when the head was elevated, and the expired air was unusually cold, but not offensive.

The symptoms indicated an extraordinary diversion of the circulation to some organ, and Professor Spooner at once diagnosed the case as one of softening, enlargement, and most likely rupture, of the liver.

The prognosis was, of course, unfavourable.

March 9th.—The symptoms seemed somewhat abated, resulting from a quiet night, and perhaps the administration of a dose of liquor ammoniæ acetatis with sp. æther. nit. when the patient first entered the infirmary; pulse 90, and more distinct at the artery; respiration tranquil; depressed countenance; membranes as before, excepting that some few vessels were visible in the conjunctiva carrying red blood. Perhaps rest had caused a coagulation of the blood at the rupture in the liver, if any such existed. The legs and ears, as yesterday, cold, and the other symptoms the same as existing on Monday.

Professor Spooner advised, and the proprietor consented, that the horse should be destroyed, and upon a post-mortem examination the following lesions were observed:—

The abdominal cavity contained a large quantity of sanguineous fluid, mingled with many fat globules floating in it. There was very extensive laceration of the capsule of the liver, and under it at other parts were large coagula of dark-coloured blood; the structure of the liver throughout its whole extent was disorganised and easily broken down with the finger: it was also much enlarged; and so extensive were the lacerations alluded to above, that an impression was created that in great

part they must have been produced when the animal fell under the stroke of the poleaxe.

This, and the case described by Mr. Paradise, go to shew to what an extent disease may pervade an important organ without interfering with the work, or, apparently, with the health of the animal so affected; for there cannot be a doubt that the liver in both cases must have been in a state of disease for months, or perhaps years—for it is well known that aged animals are chiefly subject to this affection—before such a state of disorganization could have been brought about.

Professor Spooner made some equally interesting and valuable remarks before the class upon the subject of softening and fatty degeneration of the liver, the latter a disease of rare occurrence.

Whether these few loose notes, taken from memory, are worthy a place in *THE VETERINARIAN* it is for you to decide. They come from one who, with a love for the science, would like to see more of the pages of that useful periodical filled by the “heads” of the profession, and subscribes himself,

Your very obedient Servant,

A STUDENT.

Roy. Vet. College, March 9, 1852.

LETTERS ON THE “REGISTER” OF MEMBERS.

To the Editor of “The Veterinarian.”

Sir,—As I have just seen the Register of the Members of the R.C.V.S. published by the Council, on the first page of which my name is inserted as an ex-officio Member of the Board of Examiners, I will thank you to allow me, through your Journal, to inform the Profession, that my name has been inserted without my consent, and that I do not intend to act on the Board. I may also state, that J. Wilson, M.D., is not connected with this College.

I am, Sir,

Your most obedient Servant,

WILLIAM DICK.

Edinburgh Veterinary College,
March 11, 1852.

To the Editor of "The Veterinarian."

Sir,—IN the recently-published Register of the Royal College of Veterinary Surgeons, I am mentioned as an ex-officio Member of the Examining Board. As the announcement is made without my wish or sanction, I trust you will allow me to state, through the medium of your Journal, that I *have not*, and shall for the future *decline to have*, any connection whatever with the Board in question.

I am, Sir,

Your's obediently,

JOHN BARLOW.

Edinburgh Veterinary College,
March 15, 1852.

MR. DAWTREY'S EVIDENCE IN THE TRIAL OF BLABER *v.* GRIFFINHOFF.

Sir,—IN your last publication there is a report of a trial, Blaber *v.* Griffinhoff, held at Brighton in November last, and also a letter from Mr. Mannington concerning the same. I think that it would have been more fair and impartial had you published my reply at the same time, as it would have put your readers in a more proper position to judge of the merits of the case.* Notwithstanding your not having done so, I should not have troubled myself concerning the same, as I believe that 99 out of 100 persons living in the locality, and capable of giving an opinion on the subject, are perfectly satisfied of the propriety of the verdict given by the learned judge on that occasion; but as the evidence, as reported in your publication, has put words into my mouth that I never uttered, and which must make me look ridiculous in the eyes of the profession, viz., wherein I am there stated to have said that *the lateral cartilages do not rise above the level of the hoof*, I trust that you will in your next give insertion to the following short statement of the case. Had you have reported the trial as given in the *Brighton Gazette* of the 27th of November, and my answer to Mr. M. in the same paper of the 11th of December, I think that your readers would then be able to judge better of the real merits of the case, and that the verdict was a perfectly just one.

On the trial I stated, and explained to the Court from a specimen placed in my hands by Mr. M. himself, that the cartilages anteriorly, where he described them as being subject

* The paper from which the trial was taken contained no such "reply."—
ED. VET.

to extensive ossification, were covered by the coronary ligament and the horny hoof; not that they did not *posteriorly* rise above the level of the crust; and that Mr. M. knows perfectly well himself, although he may take an advantage of a mistake of a reporter in *reporting technical phrases*, and by so doing endeavour to cover his own blunders.

I shall not now enter into any discussion of the subject, as, if we continue to do so for twelve months, *we cannot make the horse unsound*, as a hundred witnesses of all ranks in society living in the neighbourhood can prove to the contrary; and if the plaintiff himself was not aware of the same, why did he not apply for a new trial, when he might have had what veterinary evidence he pleased, if he did not know the utter uselessness of so doing; and I will further inform your readers, that Mr. M., by keeping the question before the public, only serves still further to make them talk of the blunders committed, and to make the profession a byword and contempt among the public, to think that there are men in it who cannot discover whether a horse is lame from a *temporary cause*, or whether he is suffering from a permanent lameness. As was most acutely remarked by the learned judge at the trial, it was not for the defendant or his witnesses to prove how he became lame after he came into the plaintiff's possession, although I should imagine any veterinary surgeon who heard the case at the trial must be *very dull of comprehension* not at once to be able to judge the cause.

I am, Sir,

Yours truly,

JOHN DAWTREY, M.R.C.V.S.

Petworth, March 13, 1852.

P.S.—I have sent you the *Brighton Gazette*, which contains a true account of the trial, wherein your readers will perceive that such words as “the cartilages do not rise above the *level* of the crust” never came from my lips. I have also sent you my reply to Mr. M.* from the same paper of the following week wherein Mr. M.'s letter appeared, by which you and the profession will be better able to judge between us. I have nothing further to add to that letter than to state that I was in the neighbourhood of Salvington last week, and found the animal had been in heavy and constant work ever since the trial, and had never shewn the least symptom of lameness; and I now state, and a hundred witnesses of all grades in society will prove it, that *he is as sound as any horse in the country*. The correspondence that has passed concerning the animal has made him quite a subject of show for gentlemen for miles round.

* This has not come to hand.—ED. VET.

VETERINARY JURISPRUDENCE.

BLABER *v.* GRIFFINHOOFF.

[THE report of this case from the *Sussex Express* having caused some dissatisfaction on the part of the veterinary evidence for the defence, we re-publish the defendant's case as reported in the *Brighton Gazette*.]

Mr. Kennett asked whether the Judge thought the evidence went to establish "unsoundness?"

Judge — There cannot be a question about it.

Mr. Kennett.—The plaintiff purchased the horse after he had discovered its defects, which were patent to the world.

Judge.—If the horse had only three legs, that would have been a patent defect; but when the plaintiff saw that the horse had peculiarly shaped feet, it did not follow that he was aware of the unsoundness.

Defendant then deposed that plaintiff inspected the horse and made remarks on it. He said, "He has peculiar shaped feet," and defendant said, "Yes, he has; but he has never been lame." The horse had done all kinds of work, on the hard road as well as in the fields, during the three years that he (defendant) had had him, and he never saw or heard that the animal was lame.

Judge.—That is of no consequence if he was sold unsound.

Mr. Kennett.—But there is no warranty.

Judge.—Yes, there is; in the letter.

Mr. George Coomber, a veterinary surgeon of thirty-two years' standing, at Worthing, and a Member of the Royal College of Veterinary Surgeons, said he had heard the evidence on the other side, and thought that the veterinary surgeons had not minutely examined the excrescence spoken of. He *had* minutely examined it; and it did not interfere at all with the joints, or in any way cause lameness. It was on the convex side of the cartilage, and did not affect the joint. It was not a bony substance, but horny fibre, and, at the College, this was not considered to constitute "unsoundness."

The Judge asked whether, if the excrescence was an ossification, it would cause lameness?

The Witness said it would not.

In answer to further questions, the witness said, new shoeing and running on a hard road might cause an appearance of lameness.

Judge.—In your opinion, was the horse "sound?"

Witness.—Perfectly sound.

In the course of a rather puzzling examination, the witness

stated that lameness would attend the process of ossification, but, ossification being completed, the lameness would cease. He believed that the horse was not now lame at all, and he believed that it never had been.

John Dawtrey, a veterinary surgeon at Petworth, said, he was a Member of the College, and attended Colonel Wyndham's stud. He had examined the horse, and found large excrescences growing out of the fore feet; they consisted of an abnormal growth of horn. It was not within an inch of the growth of the cartilage, and it had nothing to do with the cartilage at all. He trotted the horse backward and forward, and tried him every way and shape.

Mr. Kennett.—And it is your deliberate opinion, from a minute examination of the horse, that he is "sound?"

Witness.—He was as sound as any horse in England when I saw him last Monday.

Mr. Kennett.—The excrescences do not interfere with walking at all?

Witness.—Not at all. If there had been an ossification of that size, the horse would have been dead lame. If Mr. Mannington would see the horse with me, I would convince him that he is wrong.

Judge.—I wish he would.

Witness.—But we have not the horse here.

Mr. Kennett said he could call five witnesses to swear that the horse had never been lame.

Judge.—The "Doctors differ."

Mr. Kennett.—Unfortunately, that is always so in these cases.

George Ide, carter to defendant, said he had worked the horse at all kinds of work.

Mr. Kennett.—Now, since you have had the horse back—for there is no secret in it, as Mr. Griffinhooff sold the horse for £47.10s. and bought it again at the sale for £42—did you ever see the horse lame?

Witness.—He never went lame, either before or since.

Cross-examined by Mr. Williams.—I have driven him on the hard road twelve miles a-day on several successive days.

David Hazlegrove, a labourer of the defendant, corroborated. The horse was not lame last night,

Daniel Knight, another labourer, corroborated.

Cross-examined by Mr. Williams.—I never observed any thing in particular in the horse's feet.

Mr. John Green, late bailiff to defendant, had known the horse work on the hard road, and climb steep hills with heavy loads; but never thought of his being lame—never dreamed of it.

Mr. Kennett.—Never mind your dreams; what is your knowledge of the horse, waking? Did you ever see him lame?

Witness.—I never saw him flinch, even.

Cross-examined.—I saw some little lumps on his feet; but never knew him have disease or medicine in my life.

Edgar Offington, blacksmith at Durrington, had shod the horse, but never knew him lame.

Mr. Kennett.—That is my case.

The Judge said it ought to have been tried before a jury.

The case being a peculiar one, the advocates were allowed to address the Judge.

Mr. Kennett submitted, that whether the excrescences or ossification spoken of would produce lameness was matter of opinion. *Mr. Burt* had stated that the ossification must have existed six months, and this was a most important statement, because the defendant's witnesses said they never observed either lameness or tenderness of feet. On the other side, there was the testimony of an eminent man, employed, on account of his skill, about the valuable stud of Colonel Wyndham; and according to his evidence, it was impossible that the judgment of *Mr. Mannington* and *Mr. Burt* with regard to the excrescences could be true; for he stated that they were, at least, an inch from the cartilages, and therefore could not possibly produce lameness. There was the veterinary surgeon's evidence pro and con.; but in order to determine which opinion was correct, there was an important guide in the evidence of the five men who had worked the horse before it went into the plaintiff's hands, and since, and they never saw any lameness. He imputed to the respectable gentlemen examined on the other side only an error of judgment; but if their opinion were correct, those five witnesses had perjured themselves.

Judge.—There is no imputation of perjury in the case.

Mr. Kennett.—There must be against the five last witnesses, if *Mr. Burt's* statement is correct.

Mr. Williams submitted that the case had to be decided by the weight of evidence. The veterinary surgeons were balanced in opinion. *Mr. Burt's* evidence, that the ossification of the cartilages might not produce lameness while the horse worked on the soft farm, although it would shew itself when he worked on the hard road, seemed to be the key to the whole case, and relieved the Judge from imputing perjury to the last five witnesses. But if the horse, when worked on the hard road, was "unsound," it was unsound for all purposes, and the plaintiff was entitled to a verdict.

The Judge said there was no doubt as to the warranty, and

the question for his decision was, whether the horse was sound when the plaintiff purchased it. It was painful to decide when "doctors differed;" but, after taking a review of the evidence, he was of opinion that it was established that the horse was sound when sold by defendant, and that, from some circumstance, he became lame after he got into the possession of the plaintiff. He regretted that the offer of the plaintiff to have the question of soundness tested by the College in London had not been accepted; but this not having been done, he pronounced, under the circumstances, a verdict for the defendant.

Foreign Department.

INQUIRIES INTO A DISEASE OF THE HORSE AS YET BUT LITTLE KNOWN.

By O. DELAFOND,

Professor of Pathology at the National Veterinary School at Alfort.

[Continued from page 165.]

Modifications wrought in Nutrition by the long-continued Use of Artificial Fodder.

IN the estimation of the chemist, that food is the most nutritive which contains the greatest proportion of azote, without regard to such element being furnished by fibrine, albumen, or any other organic substance. Indeed, according to some chemists and physiologists, fibrine and albumen constitute but one and the same immediate principle, whether it be after digestion or flowing with the blood under the influence of vitality. If this were the case, either of these two principles, existing in the food, might serve for the normal constitution of the blood, and for the support of life. But observation does not bear this view out. Both to the physiologist and pathologist notable differences mark these two animal substances. Fibrine, let out of its vessels, immediately coagulates in a filamentous form, while albumen remains in a state soluble in serum. During disease, fibrine is not effused but in the second stage of inflammation, whereas it is albumen that constitutes the products of the first stage.

United to osmazone and creatine, fibrine, in the work of nutrition, is the principal ingredient in muscle or flesh. Albu-

men, on the contrary, constitutes part of all tissues, though especially of passive organs, such as bones, tendons, cartilages, &c., as well as of the animalised fluids, secreted and excreted.

Caseine quits the blood for the purpose of the secretion of milk, of which it forms one of the chief ingredients.

The globules, according to some physiologists, serve for nutrition, though their principal end is to serve for sanguineous incitation.

The fat the blood contains, often in great abundance after digestion, will be principally destined to furnish the fatty matters of the organization.

Lastly, the saline-earthly principles are, in part, for the hard tissues, such as bones and cartilages, and in part for the soft tissues, as well as for the secretions and excretions. If, then, the blood conveys to the divers organic tissues the assimilable matters necessary for their support, it is easy to conceive that, should any one of its elements appear in superabundance, its deposits and assimilation should likewise become superabundant equally through the entire system. And this is what experience shews. So that, if pigs or poultry, put up to fat be fed on barley-meal or maize, substances in whose composition fat largely enters, these animals fatten with great rapidity.

Let a horse be fed largely on oats, a grain which contains much vegetable fibrine; or a dog principally on flesh, either raw or cooked, which contains a large proportion of animal fibrine and creatine, and we shall soon perceive, under such a regimen, his muscles increasing in volume, and his muscular contraction becoming more energetic and sustained; while, under a regimen composed of plants containing an excess of albumen, although receiving at the time a good allowance of oats, I have observed horses to make fat; and that, though kept all the time at hard work, they never acquire that strength and robustness which they do while feeding on grain derived from the family of the grasses.

Am I not, therefore, warranted in believing that the over-use of leguminous fodder and grain, aliments which furnish the blood with no fibrine, while they saturate it with albumen, produce serious modifications in the process of nutrition? At the same time, am I not to be permitted to think that the origin of disease, its gravity, and the difficulty with which it is removed, are referrible to these profound and consequential modifications? As indeed have shewn experiments made for these ten years past, with all possible accuracy, by a committee under the auspices of the Academy of Sciences.

It has been ascertained that the use of fibrine and albumen,

by themselves, are capable of affording nutriment but for a limited period, and to a very inadequate degree, and that animals fed upon them, *even in considerable rations*, in the end die.

May not similar consequences arise when animals for a long time are abundantly and almost exclusively fed upon artificial fodder and grain containing only albumen and fat? Is it not such feeding, all but changeless, that engenders disease and renders it incurable when produced? I believe it is.

What, in fact, do we observe during the course of the disease? Sero-albuminous effusions into the cellular tissue of the most dependent parts, into the sheath and limbs, and sometimes even into the anterior chamber of the eye.

What do we find after death? Sero-albuminous collections into the pericardium, the peritoneum, and the deep cellular tissues enveloping the vessels.

In what parts of the country do we meet with the disease? In those in which artificial forage is especially grown, and on farms wherein a large cultivation affords the most liberal rations.

So that I think we may come to the conclusion, 1st. That artificial leguminous fodder, containing no fibrine, but, in lieu, supplying albumen and fat, tend to degenerate (*dénaturer*) the normal constitution of the blood, and to produce an alteration of it.

2dly. That the blood, thus altered, no longer furnishes for the nutrition of the organic solids and the various secretions, but two materials capable of supporting the animal system, such animal nutrition affording cause for the gravity and incurability of disease.

HARD OR FATIGUING WORK imposed on horses fed on the diet in question accelerates the approach of disease. Under such circumstances, it is easy to imagine that the painful and sustained muscular contractions which such horses endure consume the globules and fibrine of the blood, and thus tend to the production of disease.

IMPURE WATER.—On many farms horses are forced to drink out of ponds the water of which is, from various causes, unwholesome. Such water, drunk in summer, when it is warm, and black or green, or highly impregnate, becomes the vehicle into the organism of septic matters which, absorbed and taken into the blood, produce septic alterations in it.

UNHEALTHY STABLING.—The heated, impure, and infected air horses breathe who live in stables with low basements, or which are confined and badly ventilated, produces the same effects as unwholesome water. The air, rendered unfit for

respiration by volatile infected matters it contains, once introduced into the respiratory passages, becomes absorbed, and infects the blood by engendering a septic influence in it. And these two agents—unwholesome water and air—become the occasion, in the immense majority of cases, of the septic character assumed by disease, which increases with its gravity.

Recueil de Méd. Vét., Oct., 1851.

CERTAIN CURE FOR CANKER IN THE HORSE.

By M. L. E. PLASSE, Veterinary Surgeon at Niort (Deux-Sevres).

ARMED with a great number of facts, I have much satisfaction in offering to notice a simple and ready method of radically removing canker in the foot of the horse, a disease for which veterinary medicine possesses no positive means of cure. By my method—which for many years I have put to severe tests—we may for the future treat, *at the same time*, in the same animal, all feet that are diseased, and with full confidence of there being no return of the disease. I may congratulate myself on uniformly having obtained the same results. I can reckon 400 cures, and I dare promise the same success to those of the profession who are willing to make themselves acquainted with the directions I am about to give.

First of all, I would remark that, whereas ulcers of the foot in general call, of necessity, for some protective to more or less completely compensate for the horn which has been removed, canker, as I shall have occasion to shew, is to be made an exception in this respect, it being my opinion that the foot ought to be exposed to the open air without any covering whatsoever, a condition on which all positive results depend. In my opinion, the fungous growths prove more obstinate in their growth in darkness than in light. Forcible compression, were it possible to maintain it up to the point of destruction, accomplishes its purpose through the entire absence of air and the suppression of the circulation.

Having, then, abolished all covering in the treatment of canker, cauterization appeared to me the most rational way of arriving at a definite result. I therefore instituted several experiments on this head, having constantly in view the relation between canker, frush, warts, &c. When the fungous growths are attacked by the knife or the actual cautery, it proves ineffectual, unless the knife or the actual cautery be carried deeper

than the parts actually diseased: if this be not done, they obstinately form again, denoting that they possess a trunk and ramifications.

CAUTERIZATION BY ACIDS, however, is ordinarily followed by happier results. Light and repeated touches, particularly with sulphuric acid, commonly produce the decay of the fungus, and with that the destruction of all its ramifications. The same as happens with the entire of a plant when persevering mutilation is practised on the trunk, though it sprouts up again with buds when only cut down at the neck: comparisons such as which it was that first led me to this practice in canker. There being, however, strong objection to using the acid in a liquid state, I endeavoured, without weakening its action, to convert it into a state of paste, with which view I mixed it up with calcined alum (*Alumen exsiccatum*). By this and other mixtures I have obtained the happiest results.

CURATIVE TREATMENT.—When we have one or more cankers to treat, we should first pare the feet out; since, should the horse not be a patient one, he will have to be cast, to fix the diseased feet, to properly prepare and dress them. In removing all dead and detached horn from the sound, take care to spill as little blood as possible. This done, and any hemorrhage that may have been unavoidably occasioned by it stopped, caustic, No. 5 (prescribed at the end of the article) is to be spread upon the diseased parts with a wooden spatula, and this operation is to be repeated every morning for five days: dressing any feet that may be unavoidably exposed to moisture twice (instead of once) a-day, it being of the utmost consequence to defend them from the wet. On the sixth day we may, if advisable, with a drawing knife attempt the separation of the eschar or slough. After which, pursue the same treatment as before for five days longer, and so on until the fungi be reduced. The ulceration then putting on a favourable aspect, secretion of horn returns as usual, the cicatrization being promoted by applying, daily, powder No. 4. Should the powder not adhere when the parts begin to heal, they may be wetted with the liquid No. 3. The application of the caustic paste very much promotes the growth of the horn, and this sometimes proves embarrassing in the course of cure. In my present practice I generally aid the separation of the sloughs by enveloping the foot in a poultice. When but one foot is cankered, the dressing may be applied with more severity. The cure of canker is always to be undertaken so long as the coronet is not affected; though, with my plan, I have succeeded even under such extension of the disease.

Styptic Fluids.

No. 2.

		Minims.
No. 1. Sulphuric Acid	150	to 250
Distilled Water.....	1000	1000
No. 3. Acetic Acid (Vinegar)	500	—
Chloride of Sodium (Marine Salt)	100	—

To make Nos. 1 and 2, add the acid to the water by very little at a time, and agitate the mixture, whereby the heat evolved will be uniformly distributed, and thus the breaking of the (glass) vessel guarded against.

Styptic Powder.

	Grains.
No. 4. Calcined or Desiccated Alum....	500
Sulphate of Copper.....	100

Both to be reduced, before mixing, to impalpable powders.

Caustic Pastes.

	Grains.
No. 5. Calcined Alum	100
Sulphuric Acid, in sufficient quantity to make a paste of the consistence of new honey.	

	Grains.
No. 6. Calcined Alum	100
Fluid Styptic, No. 2, a sufficient quantity to form a paste of the consistence of the former.	

To make these caustic pastes, stir the powders in an earthen vessel, while the acid is being added very gradually, from time to time until the mixture has grown cool. By so doing the formation of crystals will be prevented, which would otherwise interfere with its application.

Recueil de Med. Vet., Sept., 1851.

CURE OF POLL-EVIL AND FISTULOUS WITHERS, BY THE ADMINISTRATION OF NUX VOMICA INTERNALLY.

By ECK, District Veterinary Surgeon, Oletzko, Prussia.

(Translated by Mr. Ernes.)

HERR ECK informs the reader that poll-evil and fistulous withers are a great plague to the veterinary surgeon, cases by which he gets very little credit, while their cure is often protracted for months, even in the hands of the most skilful; added to which, by the usual practice of deeply incising, the

parts are left with unsightly cicatrices. Under these considerations, after years of experience, he flatters himself with the impression of having found in *nux vomica* a means of cure, even for the most inveterate cases, without using the knife; and that, too, in a short space of time, so little as from three to four weeks, and without leaving the least signs upon the parts that have been affected.

The dose of the *nux vomica* is 3j, to be given in the provender, or otherwise, morning, noon, and night. This is greatly assisted by rubbing some blister ointment on the affected (as yet unulcerated) part every three or four days. It may also be preceded by an aloetic purge.

The *nux vomica* is equally efficacious, given in this manner, in the cure of all other tumours, fistulæ, &c. whatever may be their nature or seat, with the exception of those in the hoof. It sometimes occurs in old and debilitated horses, that, after a short time, the tumour re-appears. The repetition of the treatment, however, for about eight days, will radically remove this unfavourable recurrence. Those cases which have already been operated on, and have many sinuses, are slower in their progress of healing, though equally certain: and here it may be necessary to attend to the external openings as well.

A young horse with a large tumour in the withers was, after three weeks, by the above treatment, perfectly cured. Another, a three-year-old colt, affected with poll-evil, so perfectly recovered in the same space of time, that it was soon after sold without any suspicion of the affection on the part of the buyer. A gelding, twelve years old, had been affected with poll-evil for more than three months. There were sinuses in all directions; some of them four to five inches deep, extending underneath the cervical ligament. This patient was radically cured in the space of five weeks by the same treatment. These are but few cases out of more than a hundred in which the treatment has not been equally successful. Herr Eck has not had an opportunity to try it on ruminants, but is of opinion that it would likewise succeed in the removal of old swellings and sores if given in solution and in somewhat stronger doses. It is his opinion that poll-evil and fistulous withers, &c. are not caused, as is generally supposed, by mere external injuries, but that they are more of a constitutional nature, and hence the rationale of his treatment. He confesses himself unable to give a scientific explanation of the *modus operandi* of his treatment; though he is satisfied about having found for a troublesome disease a certain cure, to which he recommends his colleagues to give an impartial trial.

Magazin für die Gesammte Thierheilkunde, Berlin.

A VISIT TO THE GREAT EXHIBITION.

By M. GOURDON, from the Veterinary School at Toulouse, France.

LANDED at Southampton, M. Gourdon—whom some of our readers resident in and near London will remember having seen—finds himself in a town whose streets, running at right angles, are large and gloomy and silent, in the midst of a misty penetrating rain, with a grey sky over his head: unvarying specimens, he adds, of the atmosphere of Britain.

From Southampton he proceeds by rail to London, and in the course of his journey is struck with the use made of every particle of land for the purposes of agriculture. All is in a state of cultivation. Inclosure succeeds inclosure without interruption. Here are corn-fields, meadows, and pastures; further on are square plots of garden ground, all neat and clean and regular; drilled in lines, weeded with care: in a word, tended to with a solicitude denotive of an advanced state of agriculture. Nor do we see land uselessly encumbered with large hedges; but, instead, partitioned off by railings or fences of wood, evincing the care the English take of losing nothing through a want of reciprocal good feeling between the several proprietors of adjoining lands.

He arrives in London, the immense commercial bazaar of the world; the town of barter and business, wherein pleasure becomes the exception, and life without business is despised; the town of contrast, wherein the most colossal fortunes rub elbows against the most squalid wretchedness; certain parts of which display scenes of great agitation, while in others nought is to be seen but cold and tristful solicitude; the town of fog, of rain, and of mud, whose styptic climate freezes the imagination and destroys the energy of thought, leaving to man nothing save the faculty of the enjoyment of things to the extent of their absolute utility, yet a faculty cultivated by the English to the highest point with every conceivable ingenuity!

But M. Gourdon, on better acquaintance with it, finds London—by way of compensation as it were for the *desagremens* he at first encountered—an exceptional city, inasmuch as everybody in it enjoys full liberty of movement, act, and word, and is as free as though he were in the midst of a desert; wherein, indeed, a foreigner, and especially a Frenchman, finds himself after a four-and-twenty hours' sojourn, instinctively relieved of his national individuality, which he in vain endeavours to re-assume; in fact, a free town, open to every body, without any

annoyance of police, without hypocrisy, and with full liberty of thought.

With this preliminary effusion, let me, continues M. Gourdon, commence my undertaking. But where shall I make a beginning?—of what shall I speak first? How am I to make an election, humble as I am, and uninformed about so many things, in the midst of such an immense assemblage of industry and talent from far and from near, combining specimens of all kinds of art and science in their newest forms, with *chef d'œuvres* unknown to the world, and perfectionateness unexampled? Even up to the present hour, while holding my pen in my hand, I feel myself posed by this question, and dazzled and confused for the second time, the same as I was at my first entry into the palace in Hyde Park: a sensation I continued to experience for several days afterwards.

At length, M. Gourdon makes a beginning in the “anatomical department,” whence he proceeds to the examination of the *marchalerie*, or farriery department.

This occupied a corner of the exhibition little frequented by the pressing and elegant crowd of persons present; though for my own part, I profited by the occasion to attentively examine what was deposited there, with the view of learning if it contained any thing that was really new. In the collection I counted 129 horseshoes, all of English make, distributed into eight collections, every one more or less resembling another. The shoes, symmetrically arranged and highly polished or varnished as they were, looked well enough to the eye; and this is pretty well all I can say in favour of them; since, in a practical point of view, I saw nothing, after a long and tedious search, worth the pains of giving an account of to French veterinarians and farriers.

All, or nearly all, possessed the fullering so characteristic of English shoeing, as well as the bevelling off of the inner border of the web for the sake of adaptation; and most of them were exhibited as perfections to prevent slipping.

With this view, imagination had been stretched to its utmost to stamp the most fantastical irregularities upon the exterior or ground surface. In one collection alone, wherein I counted 28 horseshoes, exhibited by Mr. Woodin, that seems to have been the sole object. Another occupied several patterns of shoes after Rodway, whose fabric was distinguished by a double fullering. In a third collection, exhibited by Mr. Stevens, of Newmarket, the same object is attained by rounding, after the fashion of a cylinder, the inferior border of the shoe, and by bevelling the external (instead of its internal) surface, or else by fullering the entire breadth of the shoe, &c. In another collection are shoes exhibited by Mr. Guy, such as are proper

for harness horses, race-horses, hunting horses, &c. By the side of these were other shoes, said to constitute perfection, remarkable for their breadth of fullering and depth of notch, &c. These shoes were indeed, outwardly, *perfection*, stamped, and plated with copper, and brilliant as they were, creditable indeed to the regiment of "horse guards" who used them; but then, did such shoeing really amount to perfection? *That is the question.* On another side is a specimen of the Manchester shoeing; and in another place a souvenir of Bracy Clark, in a shoe with a hinge; though this one was intended to be fixed to the foot without nails. Such, however, was the constraint exercised on the foot by it, that elasticity was, in truth, more counteracted by it than by nails, if indeed nails really do operate against the elasticity of the foot: an opinion more than doubtful at the present day.

In all this I discover but one thing; and that is, the imperfection of English shoeing, revealed to us as it is by the thousand inventions had recourse to with the view of remedying its inconveniences. Would the English but, in good faith, determine on adopting the simple, solid, admirable method of shoeing practised everywhere in France, they would find no occasion for racking their inventions for so many impracticable devices; since, in place of introducing notches and indentations of every fashion, they would have no more to do to obviate slipping, than to leave, as we do, the heads of the nails projecting out of their holes (which at present they do not do), and their object would be attained.

Unfortunately for the feet of English horses, there is little chance, yet awhile, of such a change taking place in Great Britain. The English of the present day are very tenacious of their absurd system of shoeing; nor would anything, perhaps, short of a revolution compel them to alter their opinion: a tenacity, indeed, difficult to understand on the part of a nation so ready to avail itself of, and carry into practice, the various improvements of the day, come from what quarter of the world they may.

For a long time English shoeing has been condemned; and during my stay to London I had opportunities of verifying such condemnation by witnessing the practice of it at the principal veterinary forges—at the Veterinary College—at the barracks of the Life Guards—at the brewery of Messrs. Barclay and Perkins, where 186 horses are employed—at Mr. Field's, whose infirmary and forge are the largest and best in London; and in several other forges besides. Wherever I went I made the same observations on the effects of their straight, thick, ill-fashioned horseshoes, destitute of *ajusture*, level from toe to heel, and

levelly nailed upon the feet, and frequently with two lateral clips driven into the crust, the toe of which is afterwards rasped.

From such shoeing the following results are inevitable, indeed anticipated :—The foot grows dry and hard and narrow, and makes rapid progress towards contraction; the *aplomb* becomes false, and at length lameness and disease of foot are engendered with deplorable frequency, for which the farrier neither knows, nor is he able to employ, any remedy. On the other hand, with French shoeing such accidents become but the exception. This is a notorious fact, patent to the whole world; and yet the English, or the majority of them at least, refuse to entertain it, under the pretext that, though our plan of shoeing may answer very well for us, it is worth nothing to them; at least, such was Mr. Field's answer to my inquiries on the subject, without, as I thought, assigning any satisfactory reason: shewing, when all comes to be reckoned up, that this amounts to neither more nor less than purely a piece of that national pride to which the English are so prone, and especially when any comparison with us, French, to whom they will on no account confess inferiority, becomes the question at issue. But judgment is declared. On this, as on many other questions which the Exhibition has cleared up, France has carried off the prize without contest; not in the Crystal Palace, to which she did not send so much as the head of a horsenail, but at home, within the improved forges of her principal towns, wherein scientific farriery, aided by manual skill, has become a finished art. And if there be, at the present day, any horse proprietors, any "*gentlemen riders*," or English veterinarians, who refuse their belief to evidence so clear and which is substantiated by several of their countrymen, let them avow the only truthful reason for refusing to subscribe to that in opposition to which the best interest of horses, viz., the healthy practice of our art, absolutely can discover nothing to urge.

Journal des Vétérinaires, Toulouse 7bre, 8bre, et 9bre, 1851.

Home Department.

THE FRENCH METHOD OF SHOEING HORSES.

[*After perusing M. Gourdon's condemnation of English shoeing as compared with the French, to such of our readers as are not acquainted with the practice of the latter some account of it may prove acceptable. The following one (which we believe to be still in practice) is taken from Goodwin's work on shoeing horses, which, in its day, obtained for its author considerable éclat, and may still be regarded as the best practical director in the forge.*—ED. VET.*]

“THE French shoe is, perhaps, rather wider than the common English shoe. It is convex on the ground side, and concave on the foot side, and equally thick throughout. It has eight nail-holes at equal distances round the anterior part of the shoe; but the last hole on the inside quarter is generally at a greater distance from the end of the shoe than the one on the outward quarter. The holes are punched with a square counter-sunk head, deep into the shoe, and at some distance from the outward rim; and they are made obliquely, to give the point of the nail a direction outward.

“On the foot side of the shoe there is a much greater space between the nail-holes and the outward edge than in the English shoe; and instead of the shoe being straight from toe to heel, it is considerably curved at the toe, which is called by the French veterinarians ‘the adjusting balance’ (*ajusture*).

“It has been objected by some persons, that this shape is unnatural, because it does not correspond with the form of the foal's foot. But this opinion does not, I think, in any way prove it to be so; for the coronet at that age is considerably wider than the base of the foot; hence, if such a notion were correct, we might expect to see the base smaller than the coronet at five years old, when the foot is full grown.

“The advantage of the French method of nailing is so very superior to the English, and the form of the shoe is so admirable, that I cannot conceive, situated, as we are, so near to that country, how so superior a system has not long before this period been attempted among us; for we certainly have not seen any plan of shoeing which possesses so decided a superiority.” “Nevertheless,” adds the author in another place, “it may be altered and *considerably improved*.” P. 203.

“The advantage of the manner in which the French nail on their shoes will be noticed hereafter. I shall here mention only the benefits of the shape of the shoe.

* A New System of Shoeing Horses, &c. By Joseph Goodwin, late Veterinary Surgeon to His Majesty, and M.R.C.S. 2d. Edition. London, 1824.

“ In the work of M. Jauze, lately published on shoeing,* the advantages of the French form are pointed out, and contrasted with the English. His remarks on the consequences likely to follow the use of the common English shoe are certainly substantiated by the deplorable state of our horses' feet.

“ If we refer to the action of the fore-leg, it will tend to explain some of the advantages of the curved shoe.

“ When a horse is about to move, the first indication of motion in the fore leg is a bend at the knee, which necessarily raises the heels, and they become more and more elevated, till the toe (which is the last part that leaves the ground) is lifted up for the moment that the foot is suspended. The base of the foot, just at its leaving the ground, is almost perpendicular; when the knee is bent to its fullest extent, the foot is then in the same position, with the heels of the shoe pointing upwards. If we consider this first part of the motion of the limb, we find the movement of the foot very nearly describing a semicircle; and on viewing the form of the joints connected with action, the necessity of a curve at the toe is clearly demonstrated. Again, the form of a shoe worn out, at once shews that it must be more suitable to put on a new one of that form rather than suffer the action of the leg to be opposed until it is worn to that shape. In the round part of the action, when the foot comes again to the ground, it is first on the base, generally, and not on the toe, as has been stated. There may be deviations from this general rule, as in those horses that have bad action; also when horses are drawing heavy weights it must necessarily differ. The fore legs may be considered simply as pillars of support, having no power of themselves to propel the body forward, progression being principally performed by the hind parts. If it were not so, the action would be different, as I have before observed it to be in those horses that have great weights to draw, and this may be more readily observed in any draught horse going up hill.

“ I have offered these few remarks upon action in order to bring the reader's attention to the curve of the French shoe at the toe. This form of shoe certainly harmonises more with the motion of the fore foot than the English: it affords a greater surface of bearing at the toe than the projecting ridge of the strait, ordinary shoe, and is better calculated to allow the motion of the leg and foot. The labour of the muscles is also diminished, and, the limb being in its natural position, the ligaments have less imposed upon them: they are at ease, and consequently not so liable to be strained.

“ It may not be inapplicable to remark the facility with

* The work referred to is entitled, “*Cours Theoretique et Pratique de Maréchallerie Vétérinaire.*” Paris, 1817-18. We do not happen to have it by us just now.—ED. VET.

which the Indian people move in their wooden shoes, which are considerably curved at the toe, when compared with the difficulty of moving with those that have a straight, unyielding sole.

“The shape of the coffin-bone is another proof of the French system being more consistent with the principles of nature than the straight ordinary shoe. If the coffin-bone of a fore foot be placed upon a level surface, the quarters and heels are the only parts in contact with it, which proves that they are intended by nature to meet the ground first, and to bear the greater proportion of the weight. But if the quarters of the hoof be removed to admit of the straight shoe, the portion of weight intended to be borne on the quarters must be thrown upon the heels, and hence the great mischief which ensues from the common English shoe. It has been said that the coffin-bone is not of the form I have described it to be. I suspect such an opinion has been erroneously formed from an inspection of a bone which has undergone a change from the effects of shoeing.

“If we contrast the curved form of the French shoe with the straight line of the English, it is obvious that the latter is as much calculated to oppose the action of the leg and foot as the former is to facilitate it. For, in order to apply the straight shoe, the toe is allowed to grow and project far beyond the extent proper and necessary for the protection of the internal contents; and in addition to this, if the shoe be made three times thicker at the toe than at the heels, the opposition to action must be increased in proportion.

“Notwithstanding I am fully convinced of the decided superiority of the French method of nailing on the shoes, and of the peculiar advantages of the curve at the toe, still I have two objections to the French system in general, viz., the convex form of the shoe on the ground side, and the concave form on the foot side. I object to the first because the horse is by no means so safe or secure upon his feet, more particularly when going over stones. To the second, I refer for my objections to the chapter on the common English shoe.”—*Op. Cit.*, chap. xvii.

THE FRENCH METHOD OF NAILING ON THEIR SHOES is described (in chap. xxxi, p. 310) as follows:—“Instead of driving the nails into the crust (in the direction of its fibres), a greater hold is taken, as the manner of punching the hole (in the shoe) indicates. The nail is driven within the crust, and goes through a portion of the sole. It takes a short oblique outward direction through the crust, which is the reverse of the English plan, as has been shewn. By taking so much hold, and giving an oblique outward direction, the smith is enabled to bring the clinches so much lower in the hoof; and nearer to the shoe. This direction of the nail affords a much stronger hold of the foot, and is less liable to split.”—*Op. Cit.*, chap. xxxi, p. 310.

HUNTERIAN ORATION.

THE Hunterian Oration, annually delivered in the theatre of the College on the anniversary of the birth of John Hunter, the founder of the unrivalled anatomical collection bearing his name, was on Saturday delivered by Mr. James Luke, one of the vice-presidents, before a large and most distinguished audience. This gentleman commenced by explaining the objects of the founders of the oration, which, he said, was intended to be expressive of the merits of John Hunter, and of those other members of the profession to which he belonged, who, having attained excellence in comparative anatomy, physiology, and surgery, shall have passed from the scene of their exertions. The language of eulogy (said the orator), when addressed to the living, may not have any other scope than that of policy, and may be limited or prompted by personal considerations merely. The language of eulogy, however, of those to whom it cannot reach, must have some higher motive, and should be animated by some enduring principle. Can we suppose any motive more elevated, or any principle more permanently enduring and suitable to occasions like the present, than the certain influence which the presentation of a good example has upon the mind as a powerful incentive to emulative imitation? Mr. Luke then gave an account of the early education of Hunter, shewing how deficient it had been, and regretted that it had been so superficial as to prevent the great anatomist from so clearly expressing his meaning, which, in some instances, it was difficult to understand; and expressed a parting regret that jewels so rare and so valuable as those possessed by the man they were met to honour should have been subjected to any tarnish. The learned orator then in eloquent terms urged upon the profession the necessity for enforcing a good preliminary education as a means auxiliary to professional progress, and irrespective of those many advantages which are, unquestionably, to be derived from it in our social positions. Thus, at the very outset of the professional career, difficulties are encountered which no means exist better fitted to overcome than those derived from a knowledge of the Greek and Latin languages. Mr. Luke then urged a cultivation of languages generally as calculated to be of great benefit to the profession by enabling them to become acquainted with the opinions of their foreign friends. It is to be regretted, said he, that facts which constitute the staple of knowledge are, in modern literature, too often so dealt with that the labour of collecting and adding them to our common stock in a compendious and useful form bears so high a proportion to their intrinsic

value. It is also to be regretted, that so many works issue from the press with the pretensions of experience which contain but little or nothing to support such a pretension ; the chief objects of such works are to be found in the large characters of their title-pages, or in the announcements intended to bring them and their authors from merited obscurity. Most of these have no influence in promoting the march of improvement, but, on the contrary, prove direct impediments to advance, and are injurious diversions from those objects of study which are really worthy of regard. They consume our time and waste our money, while they cumber our shelves and literature with unnecessary repetitions. These observations apply to a section. Fortunately, another section more worthy of respect, comprises authors who, trained under the influence of the Hunterian school, and having received inspirations of Hunter's genius, have sent forth productions deserving our highest commendation, bearing upon them deeply impressed internal evidence of great sagacity, industry, and extensive research, with those other characteristics which mark them as important steps in our onward healthful progress. These, while they eminently conduce to the benefit of the professions, serve as honourable memorials of the distinguished persons from whom they emanate.

Mr. Luke considered it beyond the limits of his mission to particularize, while these leading members of the profession were still with us ; but he could not allow the opportunity which the occasion afforded of paying a passing tribute of respect to an amiable man who had retired from the college during the past year. That tribute, said the orator, is due most appropriately to him, when speaking of those works of merit which emanate from their authors with no vain-glorious pretensions, or seeking after ephemeral popularity ; for these motives to action our late respected colleague repudiated as repugnant to his own sense of right. Those who knew Mr. Vincent's high qualifications as a practical surgeon, knew also with what reluctance he presented himself before the public as an author. Under whatever influence that reluctance arose, the effect was to defer the publication of the results of his observations until a matured experience, through a long and useful career of practical benevolence, enabled him to speak with that authority and weight which both became his position and commanded the respectful attention of his contemporaries. Mr. Luke again alluded to the necessity for a sound preliminary education in gentlemen intended for the medical profession, and stated that the council of the college, in order to diminish, if not to remove, adverse influences of the description alluded to in the commencement of the oration, had instituted examinations in classical

literature as a stimulus to its members, and with the hope that, upon the foundation thus laid, an elegant and useful superstructure might be raised, eventuating in those literary advantages which it had been the object of his immediate predecessors to point out. It was not intended, said the orator, to be understood that classical should usurp the place of professional knowledge, nor is it to be encouraged to transgress beyond its proper and useful limits; for it will be recollected that medicine is a *practical* profession, and that study by its professors which contributes to render them the most useful aids to the public, is most to be promoted and encouraged. All reputation which is acquired at the expense of practical knowledge is meretricious, and liable to deceive by dazzling the judgment. Great as the advantages of classical erudition undoubtedly are, as auxiliary to the attainment and diffusion of scientific truth, we are ever to hold in remembrance that these advantages have determinate limits, and to pursue them beyond those limits must be considered as devoting time to a pursuit which may possibly be more usefully applied to purposes of direct professional advancement. After paying an eloquent tribute to the genius and untiring industry of John Hunter, as evidenced in his works, the orator observed, that to obtain the most impressive notion of the pervading spirit which influenced all he did, we must place ourselves amid that vast collection of scientific facts which, by the enlightened liberality of a former government of this country, it is the good fortune of this college to hold the charge. How much that charge is valued, as contributory to scientific professional interests, may be partly inferred from the exertions used, and from the expense incurred for its preservation and increase, but more from the extensive changes which have taken place in professional knowledge, on which the Hunterian Collection has had a direct influence.

The learned orator then proceeded with great judgment to comment upon the quackery which pervaded, fortunately, but a small portion of the profession of the present day, and into which they had lapsed from not having examined and carefully treasured all the facts coming before them. Had medical science, said Mr. Luke, been reared under this absolute dependence on facts, how different would have been its present condition, and how little cause would there be to give expression to any regret on account of errors in our own day of some of its professors. Unfortunately, to many other causes prevalent in times long past, we have in our own times to regret that either folly or avarice have withdrawn many persons from its legitimate paths. The groundless assumptions which have been taken by these persons as a means of pandering to a popular sentiment,

and impudently and falsely dignified by them with the proper attributes of science, serve to make manifest to what a depth of degradation the mind can and will descend when not upheld by the dictates of true science or moral rectitude. Godlike though our profession be when properly used for the glorious purpose of giving health, how fallen from that high similitude when perverted to the ignoble purposes only of an absorbing avarice! It is an axiom of the deepest import to the steady and safe course of scientific study that no confidence should ever be placed in conclusions beyond the limit of the data from which they are derived. It is to be feared that, with every disposition to adopt facts as to the groundwork in forming deductions, it has happened too frequently that inquirers have been influenced by a few prominent and impressive, rather than by a due consideration of all the facts which, by a more careful proceeding, might have been brought to help their decisions; and that thus opinions have been promulgated which may not have been justified by the premises had they all been duly taken into consideration. That such opinions, insufficiently supported as they must be, and bearing upon them the probability of error, while they seemingly advance knowledge, serve occasionally, like *ignes fatui*, to lead from the true path, and entail a necessity upon others of a toilsome correction, with all its attendant retardations to advancement. The able orator concluded by a recommendation to his hearers to control their aspirations after knowledge by a wholesome reliance upon facts alone, as ascertained by experience, and to eschew all dependence upon mere hypothesis and conjecture, as the valuable and safe lesson, as taught by Hunter and his museum.

In the evening the president (Mr. South) entertained, in the library of the college, a large and distinguished body of guests to dinner, among whom we observed the Earl of Enniskillen, the Bishop of London, Sir James Graham, the Lord Chief Baron, Sir De Lacy Evans, Sir Howard Douglas, Captain Boldero, Sir William Burnett, Sir James Clark, Sir B. Brodie, Archdeacon Hale, Baron Dübin, Sir R. H. Inglis, Sir G. Staunton, Sir John Liddell, the President and Censors of the Royal College of Physicians, &c.

The space we have given to the Oration prevents us giving the interesting speeches, on professional and other subjects, which took place after dinner.

Times.

VETERINARY JURISPRUDENCE IN SCOTLAND.

[“ From the Scottish Farmer.”]

Sir,—THERE is, perhaps, no position in which the veterinary practitioner in the north finds himself so disadvantageously situated, compared with his brethren south of the Tweed, as when he comes to give evidence in a court of law ; nor are there (in this part of the country at least) any sort of civil law disputes in which more law and less justice are dispensed than those wherein the veterinarian is called on for his evidence. In England, when a man over-reaches his neighbour by selling him a diseased or unsound animal, the case is sent to a jury of twelve honest men, who, after hearing the evidence, seeing the appearance of the witnesses, and asking such questions as they may think necessary for expiscating the truth, generally manage to give a decision guided by common sense and common honesty. In Scotland, on the other hand, such causes are decided by a *legal* judge, aided by legal counsel, without *viva voce* examination of the witnesses, and without a jury, and the turning point in the decision is commonly some legal technicality or quibble unconnected with the justice or merits of the case, and unappreciable to ordinary understandings.

In proof of the first of the above affirmations, we could refer to the pages of THE VETERINARIAN in which has been recorded, with almost monthly punctuality, whatever has happened of interest in veterinary jurisprudence in the various law courts of England, for the last twenty years ; and in proof of the second, we need only to cite a case decided at last Aberdeen circuit (namely, that of *Smith v. Rainnie*), of which a garbled and one-sided report appeared at the time in the local weekly papers. As this case has several points in connexion with it of interest to the general as well as veterinary reader, we purpose making it the subject of a few remarks :—

The facts of the case are, that Smith bought from Rainnie a cow in December, 1848—lean in condition, but presenting no other appearance of dishealth, and warranted sound and healthy by the seller. The cow shortly after calved, and went on seemingly well for some weeks, when she began to go off her feeding, and was treated by Smith, who is himself a V. S. and at the time believed her to be labouring under functional disease only. In spite of all the stimulating and restorative treatment that could be tried, the animal died on the 10th of April, 1849 ; and on Smith opening her, still having no suspicion of the existence of anything beyond functional disease, a large accumu-

lation of matter was found in the chest and pressing upon the heart. From its appearance, Smith came to be of opinion that it had been in existence at the time when he bought the cow, and consequently that he was entitled to restitution of the price; and to make good this opinion he gave notice to Rainnie, on the day after the cow's death, that on the following day he intended to have the diseased parts submitted to independent veterinary inspection, and invited the presence of Rainnie or some one on his part. Rainnie, however, made no appearance; but Smith went on with his case, and finding his opinion backed by what he thought competent veterinary proof, brought it before the Sheriff Substitute, who, rather strangely, gave a decision against him, on the merits of the case, but without the trouble of hearing the evidence. This decision was appealed against to the Sheriff, who allowed a proof; but, in a manner equally strange, decided in the teeth of the evidence before him. This was again appealed against to the circuit, but the appeal was dismissed, without time being allowed for the nature or merits of the case to be gone into.

In order that our readers may judge for themselves the ratio in which *law* and *justice* prevailed in the decision of this case, we print entire the "notes" appended by each of the Sheriffs to their decisions—documents of such rare composition as to deserve an attempt being made to preserve their merits for the benefit of all who may have an itching after going to law:—

Note by Sheriff Watson in cause Smith v. Rainnie.

"This is an action for repayment of the price of a cow bought on the 15th Dec., on the ground that at the date of purchase she was labouring under a latent disease, of which she died on the 10th April, 1849. It is said that certain reports by veterinary surgeons, who made a post-mortem examination, will be produced (but which have not been produced), and will instruct, that the complaint must have existed several months previous to the purchase.

"It is impossible to estimate the amount of the scientific knowledge of a country veterinary surgeon: but no man of common sense who reads the summons, which states that the cow calved after she came into the pursuer's possession, and made a safe and quick recovery, will believe that any one can tell how long the animal laboured under the internal complaint of which she died, before it exhibited any internal symptoms. It is easy to understand how some chronic diseases may be known to have been of long standing; but it is absurd to suppose that any one, from a post-mortem examination, can say how

long an abscess took to its formation, and when it was of such a character as to constitute bad health, when, to all outward appearance, the health was remarkably good."

(Signed)

W. WATSON.

Setting aside the want of common sense and Queen's English in the above note, and setting aside also the remark about "certain reports" that were to be produced "but which have not been produced" (how could they, when they formed part of the evidence which the Sheriff refused to hear?), let us look at what are his chief expressed grounds for arriving at the decision he comes to. Stripped of expletives, they are, that "it is impossible to estimate the amount of the scientific knowledge of a country veterinary surgeon;" "but it is absurd to suppose that any one, from a post-mortem examination, can say how long an abscess took to its formation."

Both these positions may be correct: but to the first, used for the purpose for which the Sheriff introduces it, we say, is it consistent with reason or even common legal usage to refuse the evidence of every one, "the amount of whose scientific knowledge" we cannot estimate? and thus condemn a witness unheard? Is it not the practice rather to examine the witness first, previously to passing an opinion upon the value of his testimony? and then, if what he states be inconsistent with itself, or with what is currently believed in connexion with the subject in hand, to submit his evidence to some one competent to give an opinion as to its relevancy? This, at least, shews a desire to deal fairly.

To the second position, while granting that it is impossible to say from inspection how *long* an abscess took to its formation, we would also reply, for the information of Sheriff Watson, that it is quite easy to state decidedly and with safety, a limited time *previous* to which it must have been in existence. When we see a field of corn ripe for the harvest, although we cannot say the exact day on which it was sown, yet we can affirm with perfect confidence that it must have been in existence a day, a week, or a month previous to arriving at maturity. The laws which govern organic nature teach us that every organised structure, each according to its kind, requires a definite time to its growth and formation, and to these laws the organised cyst of an abscess forms no exception, although a Sheriff may be ignorant of the fact.

Country veterinary surgeons—and these compose the bulk of the profession—can forgive the worthy Sheriff the gratuitous inuendo against their "scientific knowledge" uttered by him: did he know how easy it was "to estimate the amount of" his

own "knowledge" of rural affairs, and particularly of such things as concern the condition and diseases of cattle, he would look upon it as one of the "absurdest" of things that he should be trusted with the decision of such cases as the one in question. As a proof of this, we shall relate for his instruction a case that came professionally under our notice since the date of the decision of Smith's case, and, rather singularly, happening within a short distance of the place from which Smith's cow was brought.

A cow was purchased at a sale of farm stock in the early part of April, in the present year, to all appearance healthy, and actually in high condition. About the end of the month she calved to her new owner, took ill, and died. The buyer went against the seller for restitution of the price, and a post-mortem examination of the body was made by two veterinary surgeons, one appointed by each of the parties. The cause of death was found to be disease within the chest. There was extensive adhesion of both lungs to the ribs, evidently of long standing, from the perfection of the organization of the adventitious tissue; and in one of the pleuræ there was found a mass about the size of an ordinary turnip, of hard concreted matter enveloped in a cyst of organised tissue. Both veterinary surgeons (they were only country ones, however) unanimously agreed that these appearances of disease had been in existence for a long time, and that the animal was unsound at the time of sale, and for many months previously.

The lesson which the Sheriff ought to learn from this case is, to trust less to his own preconceived and "common sense" notions of how long latent disease may exist, and to refer rather to matters of fact. By the voluntary statement of the seller, as well as by other proof, it appeared that this cow had *pleuro-pneumonia* in October, 1848—*eighteen months* previous to the time of sale, from which she made; by judicious treatment, such a recovery as enabled her to get into *good* condition, to produce a calf in seller's custody in the spring of 1849, and to thrive apparently from that date to the time of sale, April, 1850. Yet with all this, no doubt whatever could exist that the adhesions and deposit of matter found in the chest had been there since the pleuro-pneumonia of 1848, and although the cow had subsequently to this produced a calf and got into high condition, yet the fatigue of removal, the change of circumstances in her new quarters, or perhaps something specially adverse attending her calving in 1850, so overbore the powers of the constitution, as to enable the disease, which had so long lain latent, to regain its ascendancy and terminate life.

What is specially worthy of remark about this case, and which we would press on the attention of our readers, is, that

although our Sheriffs have issued proclamations of the most stringent kind regarding the sale of diseased animals, especially those affected with pleuro-pneumonia, yet here is a case in which, had it come before Sheriff Watson for a decision, and had he acted on the same principle as he did in deciding Smith's case, without hearing the evidence, he would have run in the teeth not only of fact and law, but of his own special proclamation;—so much for trusting the decision of cases to men ignorant of the nature of the thing to be decided, and who will not be taught in evidence by those able to inform them.

We have no doubt, from the high character which Sheriff Watson bears for his love of justice, that in giving expression to the views he does in his note, he erred from ignorance: were he conversant with the subject, he might, perhaps, find that "country veterinary surgeons" were capable of "rendering a reason" in support of their expressed opinions when called for; and he might also find that there are many latent diseases in animals that remain much longer hidden from external observation than he thinks consistent with "common sense," but which can yet be demonstrated to be in existence if looked for. We wish we could speak with equal lenity of the note given with his decision by Sheriff Davidson; but to do it justice we must defer its publication and consideration to a future number.

I am, yours, &c.,
C.

THE PRESENT CONDITION OF VETERINARY MEDICINE IN ITS RELATION TO AGRICULTURE.

COMMENSURATE with the moral and social advancement of a people, will be the estimation in which animals, the instruments of pleasure or profit, are held.

The records of the past and present demonstrate that a total disregard for the feelings of the brute creation is compatible with a high state of civilization; but there is nothing to lead to the assumption, that cruelty can ever be a characteristic of a moral and religious nation.

In our own day, the spread of true humanity is flattering to our national feelings; in no country, perhaps, are the claims of the brute to consideration so universally acknowledged, so powerfully asserted: setting aside the "cant of sentimentalism," there is in the people a broad recognition of the fact, that animals have nerves and organs like their own, that they are as keenly sensible of painful impressions. This conviction has

found appropriate expression in an act of the legislature, which interposes the strong arm of the law between the brute and his oppressor.

So far we are in the right direction ; but there are still spots in the civilized world where informers enter not, and "Martin's Act" ceases to be in operation—where the most barbarous proceedings are tolerated under the name of "doctoring." We could tell of animals' legs being scored with the "hot iron" for a disease which existed only in the imagination of the operator. We could name "time and place" of mis-called "surgical operations," where hours have been occupied instead of minutes ; where any device that ignorance could suggest, or cruelty execute, has been brought into requisition, with a total contempt for consequences. Bad as is the effect of quackery in human medicine, it is at least exempt from much of the barbarism that still clings to brute surgery : the man does not live who dares tie a fellow creature to the table, and hack at him till he finds what he seeks for. But who considers the beast under the same conditions ? "It is only a horse," is a sufficient cover for any amount of mal-practice and barbarity.

We need not multiply instances ; "a word to the wise is enough : " cases are not wanting ; let us illustrate by reference to a few.

Among cattle there is a commonly occurring affection, consisting mainly in digestive derangement—obstinate constipation is a marked symptom : medical assistance is necessary—the cowleech arrives—prescriptions, too disgusting to be printed, are poured down the animal's throat. No effect. The sapient attendant then concludes, "the guts are twisted" or tied ; the patient has the "gut tie." Now then commences a series of novel manœuvres, which would be intensely funny if a living animal were not the subject of them.

With a laudable desire to try mild remedies first, a "live eel," or "small trout," is transferred from a neighbouring brook to the animal's throat, under the impression that the fish, feeling acutely the impropriety of his position, will make desperate efforts to thread through eighty yards of tubing, twisted into all manner of eccentric shapes, untying the knots as he proceeds. In the event of this failing, by no means a remote contingency, an operation is deemed requisite ; the animal's side is cut into, the hand introduced, and the knot untied or cut. The cruelty and absurdity of treatment are apparent at once, if we consider the impossibility of discovering knots or ties inside an animal, even though they were present, and the still greater difficulty of finding the spot among an immense mass of intestine. But it may be asked, what does the operator untie ?—we answer,

nothing, because the probabilities are that nothing is tied. A man ignorant enough to attempt the treatment would be cunning enough to conceal any result which opposed his assertion. He says, he has untied the knot; who can say he has not, if the patient recover? His fame spreads: if it die, no knot is found; consequently he must have spoken truly.

Another illustration offers:—An ox is left at night apparently in health; the following morning he is discovered lying down in his shed, and incapable of rising, suffering indeed from a form of paralysis. The farrier is called in, and commences his examination: the tail appears to be an object of especial solicitude;—a few inches before its termination a soft portion is discovered, then, again, a hard knob, from whence springs a tuft of hair. Here is the secret of the disease; the patient is the victim of “tail worm” or “tail slip;” “the softening of that part takes the strength out of the back bone, and prevents the animal rising:”—such is the opinion offered.

From so elevated a view of the nature of the affection we should expect an equally enlightened system of treatment—nor are we disappointed: the offending “soft portion of the tail” is cut into with a knife, the incision being filled with a mixture of “tar and salt,” pepper, or any thing which has the property of stimulating the part with which it comes in contact. So brilliant is the effect of this treatment, that the animal has been known to rise immediately: true, there have not been wanting sceptics to assert that “running a hot wire into the nose,” or the performance of any other mild operation in a part remote from the seat of the affection, has been equally successful; but their sarcasms have met the contempt they deserved. However, in a spirit of candour let us examine the matter. As the men who do these things are “practical,” it is not too much to expect they know from observation the healthy state of the parts; but, strange to say, the unfortunate “*soft portion*” is a characteristic of every ox’s tail that has yet been examined. From the last bone of the organ is continued a piece of gristle, which terminates in a rounded knot, acting precisely as a knot in the thong of a whip, rendering the part more available for the purpose of beating off offending insects. It is startling, but notwithstanding true, that men who have spent their lives among cattle should remain in ignorance of so simple a circumstance, and treat as a disease what is, in reality, a beautiful provision for an important end.

To go on:—we have in the horse a disease as a consequence of fever, known as lampas; a little swelling of the gum at the roof of the mouth, something akin to a gum-boil in ourselves, requiring the same treatment; but the animal’s considerate

attendant deems it annoying to him, and decrees its removal; and by the aid of a red hot iron burns away the offending part with as much coolness as though he were performing a necessary operation. But we pass over the more brutal barbarism of chiselling off bony tumours, pouring boiling pitch into fistulous wounds, and tearing off the sole of the foot by means of pincers, because these things are only tolerated among the few who are not included in the sphere of civilization, and because we have no further desire to pander to a depraved taste, nor to offend the sensitive by details of actions which would stain the reputation of a *wild Indian*.

Let us not be asked, How are these things to be remedied? Who possesses the power to prevent them? All can prevent them; it is within the province of every one to see that his animal be properly treated by those who have at least something beyond their assurance to recommend them. The improvement of veterinary medicine, especially in relation to agriculture, is dependent upon the agriculturist himself: let but the demand for educated practitioners exist, and the supply will more than keep pace with it.

The immense influence that agriculture must exert upon our national greatness is a sufficient argument to prove the propriety of consulting every means to its advancement: it is madness to centre our whole attention upon our crops while the sanitary condition of flocks and herds is wholly neglected, or left in the hands of the ignorant. That the treatment of cattle remains in its present unsatisfactory condition is greatly due to the apathy evinced by the agriculturist in the matter: we invite his serious attention to the subject; let him use the means he has; the end cannot but be desirable.

For the present we have done. During the time we have kept in view the importance of the veterinary profession to agriculture, we have neither denied nor sought to gloss over any defects which impair its usefulness. In opposing the employment of unqualified men, we have not ceased to remember that men of talent and strong sense are among them: they constitute the exceptions; we attack the system, not a few individuals. If it be objected that among the certified members ignorance may be discovered, we answer that, in the fact of a man's being a member of a corporate body, the public has some guarantee of his fitness. An instance of gross misconduct, maltreatment, or neglect, would not pass unnoticed if properly represented; while to discern between the educated and the ignorant cannot be difficult, since

“Men do not gather grapes of thorns, nor figs of thistles.”

Cirencester and Swindon Express, Feb. 28, 1852.

OXFORD FARMERS' CLUB.

LECTURE ON THE VARIETIES OF VEGETABLE FOOD, AND THE REARING
AND FATTENING OF STOCK.

By J. C. NESBIT, F.G.S., F.C.S., &c. Principal of the Agricultural
and Scientific School, Kennington, London.

*Delivered to the Oxford Farmers' Club, in the Town Hall,
Oxford.*

AFTER some scientific observations embracing the phenomena of vegetables as food for animals, and their mode of assimilation by the latter to their own nature, &c., the Lecturer went on to say:—Well, now, gentlemen, I think we may apply these facts to the working of our farms and the fattening of our stock. The more your animals are exposed to cold, the greater will be the consumption of food required to keep up that temperature which is necessary for their existence, before they can lay up the smallest portion of food on their bodies in the form of fat. Two farmers might consume the same amount of food on their farms, one having regard to the temperature, and the other not paying any attention to it. In such a case the former would be able to keep a larger amount of animals than the latter, because one effect of keeping them warm would be that a smaller amount of food would be required. I know a case in which this was exemplified during the last autumn. A certain number of sheep in Dorsetshire were kept under cover, and properly warm; whilst the same number, fed with exactly the same weight of food, were folded in the open field. Those which had the requisite degree of warmth gained, I think, on the average, 3lbs. in weight per week, and the others gained 1lb. only. Such was the difference between two lots of sheep owing to the cause which I have stated. Now, at the present time this matter is of considerable importance to you. By attention to it, you may evidently get from the same amount of food from 1s. 3d. to 1s. 6d., instead of from 5d. to 6d.; and none of you will deny that that is an advantage worthy of your consideration. I would now refer again to the use of fat. There are plenty of instances which would serve to illustrate what I have to bring before you on that subject. In the hybernating animals nature has provided a disposition of body by which much of the food which is consumed is laid by as a reserve in the form of fat. The bear comes out of its den in the spring: during the summer and the autumn it lines its body well with fat, and when the winter arrives it retires to some den or shelter, where it covers itself up and lies cosily during the cold season, without making any more

motion than is absolutely unavoidable. Air is continually taken in by the lungs, and acts on the fatty matter, which is re-absorbed, and by absorbents taken into the lungs; and there the process goes on during the whole winter, and the animal in its winter residence is supplied with fuel which it prepared during the summer months to enable it to live during the winter. There are many other animals which provide large quantities of fat in favourable circumstances, and the materials thus obtained are burnt up and consumed when the animal could not otherwise obtain an adequate supply of food. A case of this kind was met with, some time since, in Switzerland. An avalanche fell, and overwhelmed a cottage and some out-buildings. Among the things which it covered was a fat pig, ready for the knife. The animal was under the snow for six or seven weeks; at the end of that period it came out alive with a loss of 160lbs. of fat, which it had consumed during the time it was buried. And you are well aware of the fact that stout, portly gentlemen can fast much longer, without experiencing injury, than thin, lean persons who have not had the same opportunity, or the same power of laying up provision for a rainy day. Now, gentlemen, with regard to *nitrogenous food*, I must tell you that the use of it is totally distinct from that of non-nitrogenous or carbonaceous food. If we examine the composition of human flesh, we shall find that it contains a certain amount of nitrogen; and it is very singular, that, when we compare our own flesh with the flesh of sheep or oxen, the amount of nitrogen is discovered to be identical. But our wonder is very much increased when we examine the composition of vegetable products, and find some of them are also substantially identical with our own flesh. If I take a certain quantity of flour, and wash it with water, I wash away the starchy matter contained in it—that matter which is one of the elements of respiration and one of the producers of fat; and I shall have left in my hands a glutinous mass, of the consistence of bird-lime. This material is called gluten, and, when sufficiently washed, it represents the nitrogenous material of the wheaten flour. Now, gentlemen, when that is analyzed by the art of the chemist, strange to say, it is found to be identical in composition with the flesh of man, of oxen, and of sheep. Again, if I take the pure cheesy matter of a cheese, and wash away all the oily and other materials, I find that also substantially identical with the gluten of wheat and the fibrine of flesh. If I take the fibrine of blood, and examine that, the result is the same. Both in vegetables and animals, we have the gluten or nitrogenous matter existing in three forms, under three names, though of almost identical chemical composition. When insoluble in water, it is called gluten or fibrine. When soluble

in water, but coagulable by the heat of boiling water, it is called albumen, as, for instance, the white of an egg. When soluble in water, not coagulated by heat, but separable on the addition of an acid, it is called casein; as, for example, the cheesy matter of milk, separable as curds on the addition of rennet. These several varieties exist in many vegetables. If turnips or mangold-wurtzel be subject to pressure, the albumen and casein will be found in the juice, and the fibrine or gluten will remain in the solid mass along with the more nitrogenous portions of the turnip. If the strained juice be boiled, the albumen will coagulate and float on the top. On removing the albumen, the casein will be liberated on the addition of any acid. The following table will shew how nearly these substances agree in composition. The first (the gluten) shews less nitrogen than the others; but it is always difficult to wash away the whole of the starch, and no doubt the sample was not pure:—

	Gluten from Flour. Boussin- gault.	Casein from Peas. Scherer.	Albumen from Eggs. Jones.	Ox-blood. Playfair.	Ox-flesh. Playfair.
Carbon .	54.2	54.138	55.000	54.35	54.12
Hydrogen .	7.5	7.156	7.073	7.50	7.89
Nitrogen .	13.9	15.672	15.920	15.76	15.67
Oxygen .	24.4	23.034	22.007	22.39	22.32
	100.0	100.000	100.000	100.00	100.00

The variations in the decimals are not greater than those which we always find in analyzing the same substance half-a-dozen times. Now, gentlemen, we have got hold of a very wonderful fact; namely, that the flesh of animals is prepared by vegetables; that instead of animals preparing flesh for themselves, flesh is absolutely prepared for them. This portion of vegetable food is taken into the system; it is there dissolved; the body merely changes its mechanical form and condition, its chemical composition remaining the same. It is wonderful to think that it should be thus operated upon by the principle of vitality; that it should be resolved, by the action of the vital principle, into the various forms of nails, hair, flesh, skin, and so on. But, gentlemen, if you examine this question carefully, you will find that such is absolutely the fact in another case, which is very familiar to you all. Let us take a common egg. In this you have a little oily matter, and the rest is made up chiefly of albumen. You subject the albuminous matter to a certain temperature for about three weeks, and what then be-

comes of it? What is the result of the lapse of that period under such a temperature? You have produced out of that matter bones, sinews, nerves, heart, liver, lungs, feathers, brains, and claws. The whole of these are produced from the egg, and yet the egg itself is nothing more nor less than albumen. After this, gentlemen, you need not wonder that under the operation of the vital power nitrogenous matter should assume such great varieties of forms as we see it assume, not only in different kinds of animals, but even in the same animal. Now, gentlemen, a question arises as to how the animal heat could be provided for an animal fed only on nitrogenous food, and furnished with none of the elements of respiration. Suppose a man to be compelled to eat nothing but mutton or beef? Gentlemen, we have this question answered by the case of carnivorous animals—animals which live entirely by eating other animals. How do these animals obtain the heat which is necessary to their existence? You will observe that they take an immense deal of exercise. In the pursuit of their prey they are obliged to exercise the various muscles of their body; and it is this motion of the muscles of the body which causes a consumption of those muscles by the air taken into the lungs, and thus keeps up the animal heat. In the case of the electric telegraph, you are perhaps aware that there is a zinc and copper plate, immersed in acid and water; and as soon as ever a communication has been made by wire between the two, an electric current passes along the wires, and at the selfsame instant the acid acts upon the zinc, and dissolves a portion of it, proportioned exactly to the strength and continuance of the electric current. In the very same way, gentlemen, when I stretch out my arm, the muscle which produced that motion, that exercise of force, is acted upon by the air circulated through the arteries, and it is the oxidation or combustion of that muscle by the air that gives me the power necessary to move my arm. As soon as my will is exercised, and I attempt to put forth my arm, an electric communication is made, a portion of the muscle is insensibly consumed, and the proper amount of force is instantly produced. Now, we all know that the more a limb is exercised the more it wastes for the day. The muscles will be smaller at night than in the morning; for the period of sleep is that appointed for the increase of the muscles. It is well known that when parties have been taking a large amount of exercise, the muscles of their bodies are comparatively wasted. Now this waste is caused by the consumption of the muscles by the air which circulates through the arteries, and it is this consumption which provides animal heat when the animal can obtain none of the ordinary elements of respiration. You will observe how wonderful it is

that animals which subsist on animal food are obliged by the very nature of their food to take a large amount of exercise; otherwise their food would not be suitable to them. It is wonderful how soon animal food is digested by creatures who live almost entirely upon it. Sir William Alexander, in his "Travels in Kaffirland," mentions the case of a Kaffir who came into the kraal one evening, nearly famished. He had been seven or eight days without food, having walked for a long distance in search of something to subsist upon. Sir William had often heard that the natives, under such circumstances, would think nothing of eating a sheep—not a Leicester, however, gentlemen, but one of the colonial sheep; and, though rather frightened at the experiment, which was contrary to all his previous notions, he provided a sheep for this hungry native. The man commenced eating; he did not leave off until he had eaten three-quarters of the animal; and the next day it was discovered that the consumer, instead of suffering any injury, had recovered, and was swelled out to his proper proportions. Instead of appearing a skeleton, he now appeared a healthy man, with muscles ready for another week's exercise. Such is the effect produced by the operation of that law which I have been describing to you. When parties who have gone such a length of time without food obtain the command of what is necessary for them, it is taken into the animal system, and is employed in replenishing those muscles which were previously exhausted. And let me tell you, that any man in this country who is compelled to labour hard must live to a great extent upon animal food, or upon food that contains the flesh-making principle; because all waste requires to be replaced from that source. In like manner, a person who eats a large amount of animal food must take a large amount of exercise; otherwise he will be thrown into a fever, which is the only other way of correcting the consumption of too great a supply of animal food.

Now, a great deal may be deduced from what I have stated. In the first place, it proves that, unless you have a proper amount of the flesh-making principle in food, what you give them will not answer the end for which it is given. If a mother gave her child nothing but arrowroot, which contains no nitrogen at all, and no bone earth, that child could not increase in size; or if it did, one portion of its body must grow by absorbing the other. If the amount of nitrogenous food were too small, the child would grow up a little Tom Thumb: it is impossible that it should grow up well, not having that which is necessary to produce muscles and bones in due proportion. Allow me to say, gentlemen, that vegetable food varies very greatly indeed as respects the relative amount of flesh-producing principle. The

life of a vegetable has for its object, as it were, the reproduction of its species, in other words, the production of seeds; and you will find that seeds contain, under all circumstances, a larger amount of nitrogenous substances than any other form of vegetables. Now, 100lbs. of beef contains 25lbs. of gluten. The following table will shew the amount of nitrogenous matter contained in different varieties of food:—

Table of Flesh-producing Principles in different Varieties of Food.

100lbs.	Gluten, Fibrine, or Albumen. lbs.	Unazotized matter. lbs.
Flesh	25	0
Blood	20	0
Beans	31	51½
Peas	29	51½
Lentils	33	48
Potatoes	2	25
Oats	11	68
Barleymeal	14	68½
Hay	8	68½
Turnips	1	9
Carrot	2	10
Red-beet	1½	8½

When you refer to beans and peas, you find that they are a stronger food than flesh itself. The seeds of all leguminous plants contain a large proportion of the flesh-producing principle. Peas and lentils generally are a stronger food than even beef; and a man who was fed upon them would, other circumstances being the same, do a larger amount of work than one who was fed upon an equal weight of animal flesh. When you come to analyse the potato, you soon discover why an Irishman, in order to get through the same amount of work as an Englishman, is obliged to eat a much larger quantity of food. He has to eat such a large amount of food, because the potato contains only a small amount of the flesh-producing principle. The amount of nitrogenous matter will vary in different samples of the same vegetable, grown under different conditions; but the figures which I have given will, in the main, be found correct. Another lesson which may be learnt from what I have advanced is the necessity of mixing different kinds of food together. If the Irishman were to mix some other kinds of food with his potato, he would obtain the same amount of nourishment much more cheaply than by swallowing such enormous quantities of that one species of vegetable. A man who uses with his bread a portion of cheese, which contains from 30 to 32 per cent. of

nitrogenous principle, will be able to do a larger amount of work than if he confines himself to the bread. I am persuaded that there is not a dearer food to be found than potatoes, if used alone. It is well known that in the case of parties who feed on potatoes alone, a large proportion of the starchy granules passes through the system untouched. So far as subsistence is concerned these granules are lost, and form part of the excrements. You see, therefore, that in mixing food, it is a point of great importance to take care not to give too much of one kind of food or too much of another. In like manner, too large an amount of the flesh-producing principle will be too expensive; on the one hand it will not be the best for the animal; on the other hand, it will be extravagant. I don't know what amount of oil-cake is given by gentlemen in this part of the country, but I am persuaded that in many cases the amount given to animals is far beyond their requirements, and that a considerable portion of it passes through the animal unacted upon, a portion only having been made use of for the purposes of animal economy, and the rest having been applied to the mere purpose of manuring. It is a most expensive article thus to make use of. I have analysed varieties of oil-cake from London, Liverpool, and Marseilles, and, having discovered what amount of nitrogen and bone earth they contained, I have then compared them with Peruvian guano. Estimating that Peruvian guano contains 16 per cent. of ammonia, I found that one ton of it will give $2\frac{1}{2}$ times as much ammonia, and 6 times as much bone earth as one ton of oil or rape-cake. No one who knows the relative price of these things in the market will spend his money on oil-cake for the mere purpose of manuring, but will take care that in its use he sees some profit attached to the animals consuming it.

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The cooking of food can under no possible condition add any thing to nutriment. Those who expect that by cooking food they will add to it any thing at all in the shape of nutrition are greatly mistaken. All we can do by cooking food, or by any preparation of food for animals, is to assist the animal in applying it to its own use.

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With respect to animals which chew the cud, it is necessary that there should be a proper amount of solid matter. I have known parties neglect this, and the effect of doing so must be injurious. Unless there is a sufficient amount of chopped straw or some similar material eaten by cattle fed with such succulent food as turnips or mangold-wurtzel, it is impossible for the working of the animal economy to be properly carried out.

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To keep fattening animals at a proper temperature, and to prevent them from having much motion, are the best means of getting them fat on the smallest amount of food. With respect to young stock, gentlemen, the case is different. Here you want a large amount of muscle, particularly as respects breeding stock; and I would never advise you to apply, as some parties do, the very same system for growing stock as you do for fattening stock. Depend upon it, that unless the muscles have sufficient action the animal can never be properly developed. In the case of breeding stock, for example, you must take care that in the first two or three years of life there is a sufficient amount of exercise to cause a healthy development of the system. There is another point which I must mention in connexion with this part of the subject, namely, the different varieties of stock. You are all aware that there are great differences between different animals, and that different animals will not fatten equally on the same amount of food. You may take it, however, as a fact pretty well ascertained, that all the best animals—those which are most sought after by practical men—are animals whose lungs, liver, and intestines generally are not so largely developed as those of the straggling long-legged creatures that we sometimes meet with. The lungs and offal of a good animal are smaller than those of animals of the last description; and practically this kind of stock is found to answer best. When the lungs are small, less air is taken in and less food is consumed. When the liver is small, less bile is produced and more fat is made. In training horses you should proceed on a plan diametrically opposite to that which you pursue in the case of oxen. In the case of horses you want a good development of lungs; you require a deep chest for wind, so that the animal may be able to endure the greatest speed; and unless a large and constant supply of air be taken in, the muscles cannot produce the requisite force. There is one other point which I desire to introduce, namely, ventilation. A certain amount of food is consumed every day by men and animals generally, for the purpose of keeping up heat. On referring to this table [turning to a diagram] I find that the amount of carbon consumed every day by man is 14 oz., by a horse 97 oz., by a cow 70 oz. This is actually burnt and consumed every day in keeping up the heat. To consume this amount of carbon, man takes in each day 27 cubic feet of oxygen from the air, and expires the same amount of carbonic acid gas. The cow takes in 137, and the horse 190 cubic feet of oxygen, and expire an equal volume of carbonic acid gas. Well, now, gentlemen, experiments have proved that the presence of 5 per cent. of carbonic acid gas makes the atmosphere a deadly poison; and if a horse gives

out 200 cubic feet, twenty times that amount, or 4000 cubic feet, will be the quantity of air vitiated in a day by a horse : you will have the air to the extent of 2000 cubic feet rendered absolutely poisonous. How can we be surprised that in stables which are so constructed as many are, horses and other animals are found with diseased lungs ? I have here said nothing of the action of ammonia from the dung on the lungs of animals, and upon their eyes. It is my belief that pulmonary complaints amongst horses arise in great measure from bad ventilation. I can easily convince you of the poisonous nature of carbonic acid gas, by shewing you how soon it will extinguish a light ; and remember, that what will extinguish light will extinguish life.

Mark Lane Express, 23d Feb. 1852.

CAUSES OF ALBUMINOUS URINE.

M. ED. ROBIN lately read a paper on the above subject before the Academy of Medicine of Paris : we subjoin an abstract of the same :—In the normal state the albumen is burnt in the blood, and the nitrogenized residue of this combustion, viz. urea and uric acid, is eliminated by the urine. The combustion is, however, not so complete as not to allow some little albumen to escape with the renal secretion ; but this albumen, besides being very small in amount, is somewhat different from the ordinary kind. M. Robin thinks that if during a sufficiently long time the albumen underwent in the circulation a much smaller amount of combustion than is habitually the case, it might pass unaltered into the urine, instead of being thrown off in the form of urea and uric acid. The author cites the following facts in support of his opinion :—

The urine becomes albuminous in croup, in complete ascites, and in cases of capillary bronchitis, with emphysema, accompanied by much dyspnœa ; in pulmonary phthisis, especially when complicated by pneumonia and marked with difficult breathing ; in gestation, when sufficiently advanced to occasion an habitual congestion of the kidneys, owing to an impeded abdominal circulation ; and in such states of the system in which a very incomplete respiration causes a marked diminution of combustion. The urine is also albuminous in cyanosis, of whichever nature it may be ; in affections of the heart, when they exist in such a degree as to keep the patients in a state of semi-asphyxia ; and, of course, in such cases where an obstacle

to the circulation of the blood, or a malformation of the heart, prevents the hæmotosis from being as rapid as under ordinary circumstances. The urine is likewise albuminous in idiopathic or traumatic lesions of the nervous centres, which cause a lowering of temperature, and thereby a marked decrease of combustion; in diabetes, a disease where very often a lesion of the nervous centre seems to be the *origo mali*; where the great abundance of sugar in the blood seems to be an obstacle to the combustion of albumen; and where, finally, the natural heat is lowered by one or two degrees with patients who are severely affected. The urine is albuminous in that kind of nervous exhaustion which characterizes the state of frame called lumbago, which exhaustion must be connected with a great diminution of calorification, and slow combustion. The urine is likewise albuminous in consequence of severe exposure to cold of a large surface of the body. Finally, Bright's disease, where the urine is always albuminous and anæmic, is especially attributed to many of the causes which have been above enumerated as capable of exciting the passage of albumen into the urine.

The author continues, by stating that some useful data may be obtained from comparative physiology. As a general rule, the urine of the common mammalia and of birds contains no albumen. Among reptiles, on the other hand, the batrachia, so remarkable for the low temperature of their animal heat, yield urine in which albumen is always to be found. It now remains to be proved, says M. Robin, that the urine becomes albuminous under the influence of such agents as interfere in a marked degree with slow combustion. The author then adduces the following conclusions:—

When the activity of the combustion which takes place in the blood, is too feeble to burn the whole of the albumen which, in the normal state, should be consumed in a given time, the general vitality is diminished, and thus more or less albumen is allowed to pass unaltered into the urine; viz. just so much organic matter as escapes the transformation into urea or uric acid. The proportion of urea contained in albuminous urine should, therefore, be smaller than it is found in normal urine, and such is found to be the case in the following diseases, the only ones, according to the author, in which experiments have been made; viz., pulmonary phthisis, diseases of cerebro-spinal axis, extensive and acute bronchitis with intense dyspnœa, and Bright's disease.

Lancet, Jan. 24, 1852.

ORIGINAL EXPERIMENT ON THE SOUNDS OF THE HEART.

To the Editor of "The Lancet."

Sir,—I SEND you a short notice of an experiment I have performed, with the assistance of my fellow-students, with a view to determine the cause of the first sound of the heart.

Chloroform having been administered to a large dog, and insensibility produced, an opening was made into the trachea, and the exterior part of the thorax removed. Artificial respiration being kept up, the heart was seen contracting and dilating. The pericardium was now slit up, and the sounds, which were heard through the medium of a stethoscope, were louder and more distinct than before the operation. The superior and inferior vena cava, and the pulmonary veins at their entrance to the left auricle, were now tightly compressed between the fingers, and the heart continuing its action, a stethoscope was again applied, and neither first nor second sound was heard. After a short interval the veins were allowed to pour their contents into both sides of the heart, and both sounds were instantly reproduced. The veins were again compressed, and all sound extinguished, notwithstanding the heart contracted vigorously. Blood was again let in, and both sounds were restored.

This experiment was performed on the 1st of this month, and successfully repeated on the 10th, on which occasion the heart's action was kept up for forty minutes; and the facts as stated above severally attested by my respected anatomical teachers, and a number of fellow-students.

As I am still engaged upon the subject, I hope shortly to send you further particulars, with full acknowledgments of the great assistance and encouragement I have received from those around me.

I have the honour to remain, Sir, your obédient servant,
GEORGE BRITTON HALFORD.

St. George's School of Anatomy, Grosvenor-place.

P. S.—Should any one be induced to try the experiment before my next communication, great advantage will be obtained by using a small pair of Liston's bull-dog forceps to compress the inferior vena cava.

THE VETERINARIAN, APRIL 1, 1852.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

M. GOURDON* has had a wiper at our nation and our nationalities; and we admire him no less for his honesty of opinion than for his frankness of expression; while we feel quite sure he will no less estimate our retort due, though it should turn out to be not altogether "the retort courteous." We acknowledge our comparatively ill-favoured climate, but believe it is pretty well compensated for, so far as soil is concerned, by the superior attention paid to agricultural science, and the untiring industry with which such science is worked out. We know we are "a nation of shopkeepers," busied, one and all of us, in "making money," and striving hard who can make the most; and every day we see him who has had the good fortune to fill his pockets, not only "elbowing" the nobles of the land in the salons and drawing-rooms of fashionable life, but actually taking his seat upon the same form with them in the *senatus populorum*, even supposing his riches do not, at some subsequent period, place him amid the ranks of aristocracy itself. All this we own to, and, in the full enjoyment of our national freedom—unequalled all over the world—put up with; nay, really find ourselves a happier people than those who are for ever agitating and revolutionizing their countries and their constitutions. We admit, we are a proud people, dogmatically fond of our opinions and practices; and though, for our own part, we are by no means wedded to the method of shoeing horses ordinarily practised in England, still do we believe that most of our professional countrymen are so attached to it, so blind to its imperfections, that nothing short of a "revolution" would be likely to turn them out of their inveterate courses.

But, in the condemnation of the English practice of shoeing, M. Gourdon, for want of accurate notices of the several forges he visited, has been too sweeping in that censure into which, after all, he has evidently been in a great measure led by suffering his national prejudices to get the better both of his observation and his judgment. Could he but re-visit the same

* See his "Visit to the Grand Exhibition," page 201 of the present number.

veterinary and shoeing establishments he has particularized, with less bias and a more searching spirit of inquiry, he would find one great and essential difference in the make of the horseshoes they were, respectively, in the habit of using. Indeed, if we mistake not, he carried away with him in his portmanteau shoes of a different pattern quite from the majority he must have met with ; and, we will add, of a pattern superior to that even of his boasted French horseshoe. We know that we are quite at variance in our opinions about shoeing with our scientific neighbours over the water ; but for all this, we are, at least for our own part, insensible neither to some disadvantages in our own shoeing nor to some advantages in their practice of the art. Shoeing, at best, is but a necessary evil. Horses' feet would conserve their natural form and soundness infinitely better without shoes than with them ; for which reason it is that half-shoes or *tips* are found to be so much less productive of mischief than whole ones, be the latter of what make or shape they may. In respect to the horseshoes exhibited in the Crystal Palace, we agree with M. Gourdon, that their chief, if not sole, pretensions to excellence, lay in their exquisite workmanship and admirable polish : as for their fullerings and notches, denticulations and serrations, they were "all my eye and Betty Martin." Certainly, two smooth surfaces coming into collision would slip readier one over the other than rough or asperous ones would ; but, as M. Gourdon truly remarks, the object is more fully and effectually answered by the French nailing, and such we believe, with Goodwin, to be preferable to our own.

But when, with the intention of shewing that French shoeing altogether is superior to English, M. Gourdon brings forward the old alleged proof *of there being comparatively few lame horses in France while England abounds with them*, we must beg leave to raise, *in limine*, our voice against an assertion which to us has never appeared of the most irrefragable character ; or, supposing the fact to be proved, at all events, most strongly do we protest against the setting down of it to the account of shoeing. We believe that Apperley (Nimrod) was right when he said, that it was the *pace* that lamed so many of our horses ; to which we would add, the battering the

frogs of our horses' feet receive in action, from which, by their thick shoes, French horses are protected.

Setting national prepossessions on one side, and lending a deaf ear to the unscientific nonsense which is continually crossing our path from the mouths and pens of unprofessional persons, we thoroughly believe, that out of the two plans of shoeing, French and English, a better one than either nation can at present boast of might be devised. And if our friend, M. Gourdon, when again he can spare time to pay a visit to our country, will come and spend a few days with us, we promise him we will fairly and honestly enter into a discussion with him of the much-debated question in all its bearings and ramifications. Meanwhile, seeing that the French nation did not contribute to the farriery department of the Great Exhibition "so much as the head of a horse-nail," we cannot admit that France "has carried off the prize," though there *was* no contest (*la France l'emporte sans conteste*); but, on the other hand, would rather the decision should be deferred until both nations shall have another opportunity of exhibiting side by side; which, when our neighbours come to have resolved upon tranquillity and the establishment of freedom in their state, possibly may take place in their own country.

WHEN the wise member of David's lineage proclaimed that "there is nothing new under the sun," he himself, perhaps, scarcely indulged in the belief that, after a lapse of many centuries, the truth of this sentence would be unassailable, at least in generals. To avoid confession of the unpalatable truth, that the march of discovery is anything but rapid, we are apt to lull the acute susceptibility of vainglory by saying, that the present is an age of applications. That this is truth so far as it goes, no one, we presume, is disposed to doubt; whether or not it be all the truth is a question beside our present purpose; our scope now being any thing but that of descanting upon the rate and kind of human progress. These reflections have been suggested by our having at hand an interesting example of this being an age of applications.

We are satisfied that we are within the bounds of truth when

we say, there are few practitioners of human or veterinary surgery who have not, at some time or other, felt the difficulty of closing a sinuous or fistulous passage, especially when so situated as to preclude the possibility of summarily ending the difficulty by laying it open with the knife.

Such a case occurred a few months since to Mr. John Marshall, one of the assistant surgeons to University College Hospital. A man had a long sinus in the substance of one of his cheeks. It opened internally into the mouth, and externally on the skin. The very oblique direction in which it traversed the cheek rendered its track so long that, even considering the failure which had attended all previous treatment, incision, on the score of severity, was out of the question. At first sight it appeared likely that good might result from passing a heated wire through the sinus. A little reflection, however, soon suggested that actual cauterization could be of no use if practised in the ordinary manner; for the wire would have been cooled long before it had made its way through the whole track. It then occurred to Mr. Marshall to pass a cold wire into the sinus, and to heat it while in. This he did by connecting the poles of a galvanic battery with the free ends of a platinum wire, which he passed through the narrow track. This done, but few seconds elapsed before the wire was red hot; in which state he suffered it to remain for a few seconds, and then, after breaking the circle, removed it, trusting to the process of granulation and contraction, so valid after burns, to obliterate the sinus. His sanguine expectation was realised, and he then entertained the idea that this mode of cauterization might prove valuable in other surgical procedures. Accordingly, he extended its use, and in many cases with decided advantage. Of course, his attempts have not always been productive of perfect results; but for this we are not going to join the ranks of those who, because not fortunate in hitting on original ideas themselves, deny all that is new unless quite perfect. Had this spirit been suffered to prevail, we should have had to recount, among its other serious fruits, that of having deprived mankind of Hunter's operation for aneurism, which at first failed, even in the hands of its immortal originator.

Convinced that our profession is never more glorious than when auxiliary to the advancement of human medicine and surgery, we have offered to Mr. Marshall to do our best to obtain a trial of his plan in the lower animals. The cases in which we think it especially valuable are those of narrow and long sinuses; and, as Mr. Marshall has kindly offered us his apparatus to experiment with, we hope to be able to try it on cases of the kind in question which might happen to come under the notice either of ourselves or of our professional brethren.

WE understand some misapprehension has arisen respecting the statement in the last report of the Proceedings of the Council, "That the President be requested to cause issue to be made of copies (of the Register) to such parties as he may think fit." This was intended to apply only to public bodies and official parties; and in accordance therewith, copies, accompanied by the following note, have been presented to—

The Horse Guards.

India House.

College of Physicians.

College of Surgeons, London.

College of Surgeons, Edinburgh.

Royal Agricultural Society.

Highland and Agricultural Society.

The Veterinary College.

Editor Lancet.

Editor Veterinarian.

Professor Sewell.

" Spooner.

" Simonds.

" Morton.

" Dick.

And the Principal Veterinary Surgeon.

"The Secretary of the Royal College of Veterinary Surgeons has the honour—by direction of the President—of presenting a copy of the Charter, By-Laws and Register to ———."

Rolls Buildings, March, 1852.

MISCELLANEA.

ANALYSIS OF THE LIVER OF A HORSE SUFFERING FROM STEAROSE.

IN a horse wasted with pneumonia, the section of the liver was found in a state very rarely observed in these animals. The organ had a dark yellow colour, a hard consistence, and could be cut, like cheese, in slices. These slices felt between the fingers like adipocere, resembling the matter which is formed by the action of water on muscles. They also produced on silk a grease spot. By heating this liver grease was also evolved of a dark brown colour, and rancid odour, quite different from the grease of a healthy organ. Portions of the liver, when dried and ignited, burned like a candle, giving out a very black smoke, and an odour like that of Ozokerite or *fossil wax*. By repeated maceration of this organ with sulphuric ether, the grease was dissolved, leaving the fibrin, and after the evaporation of the ether I obtained a sufficient quantity of grease for chemical examination. This grease appeared like a combination of oxide of lipyl (the assumed base of fixed oils) with a particular acid. When boiled with caustic potash it was converted into a soapy mass, which, by decomposition by acids, disengaged a very penetrating and rancid odour. By cold digestion with ether a small quantity of cholesterin was dissolved, which, by evaporation, separated in crystals. The disease of this animal resembled stearose.—*Pharmaceutical Journal*.

SAGACITY OF FISH.

A GENTLEMAN constructed a fish-pond close upon the sea coast and so closed at the mouth that the tide could ebb and flow into it. Into this he put every kind of sea-fish common in those parts which were fit for the table, and out of it his table was plentifully supplied at all times. Among the numerous finny prisoners there was, and still is, we believe, an old cod, who became quite tame, and would at any time feed out of the hand. The pond was under the special superintendence of the gardener, whose presence could at all times collect a crowd of fishes to the side on which he stood, and from which he was accustomed to feed them. All of them, however, kept a respectful distance except the aforesaid old cod, which allowed itself to be tickled over the back and snout, seeming to enjoy the treat like a cat. We have not the least doubt that if the trainers of learned pigs, speaking birds, and ratiocinating dogs would only try their hands on fishes, there might be a great deal more made of them than gourmandizers suppose.—*Montreal Courier*, June 1851.

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CONTRIBUTIONS TO VETERINARY PATHOLOGY.

By WM. SMITH, M.R.C.V.S., Pottergate-street, Norwich.

Pleurisy the Result of Neglected Cough.

A GREY gelding pony, the property of a tradesman in this city, was sent to my infirmary on July 28th, 1851, for advice and treatment for a cough of some fourteen days' standing. His pulse is natural; coat staring; nostrils dry. I am informed that he does his work as well and with as much spirit as usual, notwithstanding the cough is frequent.

It appearing a case of ordinary catarrh, a cough ball was given, the throat stimulated, and the proprietor directed to discontinue working him for the present; to feed him on bran mashes and moistened hay, and to send him daily for medicine. He does not attend to these instructions, but sends him again on the 29th, when the treatment is repeated, and I see no more of him until the 10th of August, when I met the owner driving him. He told me that, as his cough was much relieved after the medicine was given, he did not consider it necessary either to keep him from work or send him again for more medicine; but as his cough had, within the last day or two, increased, he wished him to have cough medicine again. A dose was given the same evening.

August 11th.—He is sent again, the cough being reported worse. Blood is abstracted; the cough medicine repeated; and rest strictly enjoined.

12th.—Medicine repeated.

13th.—Cough no better. He now refuses his food; on which account, and as I have reason to believe that he is not in careful hands, his owner being accustomed to drive him sharply and afterwards leave him standing still for some time exposed, without cloth or shelter, to draughts or cold, I took him into my infirmary.

The pulse is still an average one, the breathing tranquil, extremities warm, but his coat is still staring.

He has a cloth put on him, and woollen bandages are put on his legs: ʒij of aloës Barb. are added to the cough medicine.

14th and 15th.—Much in the same state. The cough medicine repeated without the aloes, as he purges moderately. His breath is become offensive.

16th, *Ten o'clock*.—I find him in a sad state. The skin and extremities being intensely cold; the pulse small, quick, and scarcely to be counted at the jaw; the respiration so active, that I cannot describe it better than by saying that he is “blowing hard;” and there is much distress and suffering depicted in his countenance: the breath also is very foetid. I caused him to be removed to a cool box, and had the following medicine administered:—

R	Spt. æther. nit.	ʒij
	Pulv. opii	
	Antim. pot. tart.	āā ʒj
	Nitratis potassæ	ʒij
	Aquæ	Oj.

M. fiat haust.

Additional clothing was placed upon him; the legs stimulated with lin. tereb., and his breast extensively blistered.

ONE O'CLOCK.—Respiration much relieved. Extremities very cold. The draught is repeated, and the legs and chest again stimulated.

FIVE O'CLOCK.—The unfavourable symptoms greatly abated; pulse 60, and recovering its tone; legs warm; but breath still very offensive. Haust. repeated. Later in the evening I found him still better.

17th.—I do not like him so well this morning, although the respiration is tranquil. His extremities are intensely cold; his cough frequent, but suppressed; he keeps constantly pawing with his fore foot, sometimes with one, sometimes with the other; lying down and rising frequently. He refuses all food, but drinks freely of gruel. The following ball is given every six hours:—

R	Hyd. chlor.	
	Pulv. opii.	āā grs. x
	Pulv. gent. rad.	q. s.

To form a ball.

From this time to the 23d there was little difference in the state of my patient. He has eaten nothing, but drinks his gruel freely; his legs being warm and cold alternately during this period. This morning I find him with his lower jaw resting on the manger, suffering dreadfully from nausea and emesis, presenting a similar appearance to that produced by a large dose of hellebore: frothing at the mouth copiously, and passing the

contents of the stomach through the nostrils; his countenance indicating much suffering; breath exceedingly foetid; extremities very cold; yet his breathing, as observed at the flank, is but little increased.

I will not enter further into the details of the treatment, but merely observe, that a draught composed of ol. lini, spt. æther. et tinct. opii was administered, which relieved the symptoms of nausea. He does not appear to flinch when pressed on the sides of the chest; nor will auscultation enable me to detect any fluid in the thoracic cavity.

He continued much in the same state, refusing all food, but drinking gruel, until the

27th, when a return of the vomiting and nausea occurred. Relief was obtained by repeating the draught as before.

He is frequently found lying down, and, when standing, is incessantly pawing with his fore feet; his breathing not apparently quickened. He was getting gradually weaker, daily, from this period to the

31st, when he died, not having eaten a pound of solid food since the 13th of the month.

AUTOPSIA.—The abdominal viscera healthy, excepting the liver and stomach: the former being wasted and clayey, and the mucous coat of the latter slightly inflamed.

The thoracic viscera were much diseased. A little fluid, amounting to but a few ounces, was found in the chest. The pleura costalis was in a gangrenous condition. The vessels of the mediastinum, pleura pulmonalis, and pericardium, were singularly injected, and turgid, having the appearance of being injected artificially. The heart presented a pale yet otherwise normal aspect. The pericardial sac free from fluid. *The lungs sound in substance, of a healthy colour and density*, the pleuræ pulmonalis and costalis, with the reflected mediastinal membrane, being alone affected; the vessels of which possessed the peculiar turgid and injected character before alluded to, which was probably more observable from the absorption of the adipose and areolar tissues of these parts, caused by a protracted illness and the loss of appetite, and consequent inability of the animal to supply the system with nutrition.

Remarks.—This case presents, I opine, some rather uncommon features: such as the nausea and vomiting occurring so long before dissolution took place; the absence of perceptible pain on pressure to the sides of the chest; the comparative tranquil state of the respiration during, with one exception, the course of the disease; also the absence of adhesions, lymph, and fluid, in the thoracic cavity.

I would, Mr. Editor, ask, if the nausea and vomiting

witnessed in this case can be attributed *solely* to the slight inflammation of the mucous coat of the stomach? Or would these effects be produced by the irritation caused to the pneumogastric nerves, they being in contact with the inflamed membranes in their passage through the chest, and more or less involved in the diseased action? Or were they the result of general irritation, or of a combination of these causes?

*** The cause of the vomition is not very apparent. —
ED. VET.

Injury to the Globe and Muscles of the Eye of a Dog.

This occurred on April 2, 1851. My patient is a small dog, of the King Charles' breed, with a convex, full, and large eye.

He was brought to me by the owner, who stated that about ten minutes since his favourite was seized upon by a larger dog in the street, who inflicted the present injury.

I found the left eye had been subjected to considerable violence. It was protruded, and partially drawn from the orbit, in a direction forward and downward. The marks of a gripe were plainly discernible on the sclerotic coat, about the sixteenth of an inch from its union with the transparent cornea.

In order to reduce it to its natural position within the orbit, I placed the ball of each thumb on the globe, using as much force as I deemed desirable, but was unable to replace it by this means. However, feeling assured that, if it were to be successfully restored to its situation and use, this should be at once accomplished, for fear the further increase of tumefaction and the rise of inflammation should leave little chance of doing so at any future period, I determined upon puncturing the anterior chamber of the eye immediately, and, by letting out a portion of the aqueous humour, and thus reducing its volume, I hoped to be able to replace the globe. In this I was not disappointed. The puncture was made through the sclerotic coat, on its inferior surface, about two lines from its corneal margin, with a curved needle; the convex part of the needle being turned towards the iris, in order to avoid wounding it. A few drops of the aqueous humour followed. I now applied the thumbs in the manner before described, when the ball quickly jerked into its proper place, to my entire satisfaction, and to that of its master, who held it whilst the operation was being performed.

A little diluted tinc. opii was afterwards applied with a feather to the eye; nothing more being done or required, save constant fomentations with warm milk and water. No in-

flammation of the eye, nor opacity of cornea, followed. In a few days the organ seemed to have quite recovered its natural form and size; and, as far as could be ascertained, vision remained unimpaired.

Polypus in the Prepuce of a Dog.

The subject of this affection is a rough Scotch terrier. His master had perceived for several weeks prior to his bringing him to me—which was on the 4th Sept. 1851—a sero-purulent discharge, sometimes tinged with blood, issuing from the sheath, which he attributed to the effects of excess of or impure coition, or to some such cause, until recently, when, upon further examination, he discovered some unusual substance therein. This he desired to have my advice upon.

An examination, by turning back the sheath as far as practicable, disclosed the presence of a polypus, of a soft sarcomatous character, in substance about half the bulk of one's little finger, and somewhat longer, as it appeared to me by tracing it on the outside of the sheath with the fingers up to its origin near the commencement of the perinæum.

It was too soft and easy to be broken to attempt its extraction with forceps, and its root was too far backwards to make a ligature available. A longitudinal incision was made along the inferior border of the sheath, extending from the perinæum, posteriorly, to within a short distance of its natural orifice anteriorly. This exposed the interior of the prepuce, and enabled me to get at its attachments, which were broad and found to be to the mucous membrane covering the root of the penis, upon its lower surface, enclosing about one-half of its circumference. The polypus extended forwards, unattached, from this point to nearly the other extremity of the sheath, having somewhat the appearance of a bundle of small earthworms, but much less firm, connected together by delicate tissue. There were also two other small fungoid-looking excrescences, about the size of split peas, distinct from each other, attached to the mucous membrane lining this passage. They were all carefully removed with the scalpel, and the places touched with argent. nit. The wound was afterwards drawn together by sutures, and a muzzle put on the dog.

So far, all went on satisfactorily. Not quite so, however, the healing process; for we had here to contend with three formidable obstacles to it.

1stly, The nature of the erectile tissue of the penis, which is so easily excited to a state of distention. 2dly, The small

degree of vascularity and vitality in the prepuce. And, lastly, the almost total impossibility of keeping the dog from rubbing and irritating the part. These together proved an effectual preventive to the union of the divided edges of the sheath.

The penis being, almost constantly for the first few days, in a state of priapism, although, in addition to the muzzle, his legs were tied, the dog still contrived to keep up such an amount of irritation as rendered all efforts to gain this object abortive: portions of the sheath sloughing off from time to time, left the greater part of the penis exposed. With this exception, all was well enough when I saw the animal in January last.

As this circumstance has rendered the dog unsightly, and will deprive him of many of the privileges he has enjoyed, such as his visits to the house, and so forth, it must be considered desirable, in any future case, to endeavor to prevent such a termination.

If a smaller incision had been made over the root of the principal polypus, more complete success would probably have ensued; but then the other two germs would, most likely, not have been detected and destroyed, and would doubtlessly have become, at no distant period, causes of further annoyance. It becomes a question, then, "of two evils, which is the least?" Whether to have waited for their growth, and then to have removed them, would have been the lesser, or, the course pursued.

Polypi, I believe, although common in the practice of the surgeon, are very uncommon in that of the veterinary surgeon. Dogs, perhaps, are more subject to them than horses or cattle. Blaine in his *Canine Pathology*, under this head, says, "I have seen them in the nose, within the uterus, and within the sheath of the penis, as well as pendant from other parts also; but by much the most usual situation in which polypi are found is within the sheath or vagina of the bitch."

HERNIA AND CASTRATION IN INDIA.

By T. HURFORD, V.S. to the 15th King's Hussars.

To the Editor of "The Veterinarian."

Sir,—IN p. 416, vol. ii, *Hippopathology*, you say, under "Hernia"—in allusion to the presence of hernia in castration—"and this, should he have done his duty in examining the animal beforehand, may generally be guarded against, or not encountered."

I confess I do not understand how, and should be very glad to be informed. I have operated on a very great number of

horses, and I know of no way of preventing hernia. I have also castrated horses that I know have been ruptured several times; and, though I would rather not have done it, I was obliged to go on: nevertheless, no untoward symptoms manifested themselves, while with others in perfect health I have had fatal hernia.

Pray notice this, as such a paragraph in your book, with the authority of your name, might lead non-professional people to blame the operator, though no blame really attached to him.

I will mention two cases that had been ruptured several times.

F troop, 1298, 8 off, castrated 10th April. Discharged, well, 25th.

F troop, 1521, 7 off, castrated 10th April. Discharged, well, 12th May.

These were two horses of a troop the whole of which were ordered to be castrated, they being in perfect health at the time. I operated, and they got well, without any trouble.

Many of these had been ruptured prior to the operation, and a few became so during, or soon after it. Some horses, on being taken to their stalls, will stand and strain violently; others will kick violently; and many of both kinds terminate in hernia.

Hernia is very common in India, and, if discovered at once, may be easily reduced. The symptoms cannot be mistaken. The horse is seldom violent. If forced to stand, he paws the ground, his head hangs down, he looks at his flank, and appears subdued, as if by constant, dull, wearing pain. One symptom I do not think you have noticed, which is, that the testicle, or rather the affected side of the scrotal bag, is cold; this is, I think, invariable. Being satisfied of the presence of hernia, I allow the animal to lie down, which he will generally do; the hobbles are then put on, and all four legs are drawn upwards to pulleys fastened to the beams near the roof. He is now fixed; and the hernia is almost always easily returned by a little manipulation, it frequently going back with a snap. Cold water is freely poured upon the parts during the employment of the taxis.

Should the reduction, however, prove obstinate, it is advisable to open the scrotum. This I always do as high up the side of the cord as I conveniently can; this rendering it easier to get at the ring. Return the intestine, place a clam on the cord, and remove the gland. The horse is now allowed to get up, and is kept standing with the hind feet elevated, and the fore in a hole, so as to remove, as much as possible, all tendency to pressure from the ring. In these cases, I almost invariably

bleed largely, and give antim. tart. or ext. belladonnæ. I send you a few cases, which will, perhaps, interest you.

20th March, 1847.—B. 601. Ruptured; returned by hand; physic. *27th*, Discharged, well.

29th March, 1847.—B. 601. Ruptured; returned by hand. *2d April*, Discharged, well.

27th Sept. 1847.—B. 601. Ruptured; has been frequently so before; returned.

28th.—Again returned.

29th.—Again returned.

30th.—Ruptured again during the night. 6, A.M. Returned. V.S. lbs. x, and physic. He dropped dead about 5 P.M. A large abscess had burst, and the abdomen had a quantity of fluid and fæcal matter in it. The ring was large enough to admit a farrier's arm.

4th Sept. 1847.—C. 1078. Ruptured; returned; V.S. lbs. xij; was again twice ruptured during the day. 5 P.M. Sumat. Aloës ʒij in solut. Sumat. Ext. belladonnæ ʒj, in ball.

5th.—5.30 A.M. Again ruptured, and again returned, but horse evidently sinking; died about 2 P.M.

20th April, 1848.—F. 926. Ruptured: this horse was 14 years old, and was at riding-school, but, the man complaining of his being dull, he was brought to me, and I found a large hernia. Returned easily.—*21st*, physic. *27th*, discharged, well.

7th August, 1848.—D. 172. Ruptured; 18 years old; returned. Sumat. Opii ʒss. *11th*, discharged, well.

3d August, 1848.—F. 1000. Ruptured; returned; physic. *10th*, discharged, well.

3d Oct. 1848.—E. 1072. Ruptured (11 years old); strangulated. I opened the scrotum, practising first V.S. ad lbs. xxv; more than a pint of water escaped, and shewed the intestine nearly black. Dilated the ring with concealed bistouri, and after a little trouble returned the intestine, put on clams, and let him loose. He lay for some time perfectly quiet. Sumat. Ext. Belladonnæ ʒij, aloës ʒvj (5 P.M.). Sumat. Opii ʒss.

4th.—6 A.M. Eats a little grass. Sumat. Opii ʒss; mashes; removed testicle.

5th.—Eats freely; purging. Sumat. Opii ʒj; remove clams; is perfectly tranquil.

6th.—Walk for ten minutes.

15th.—Half feed, and regular walking exercise.

25th.—Full feed. *14th Nov.* discharged, well.

I do not find the introduction of the hand into the rectum of much use, if of any. It is not so easy to lay hold of the strangulated intestine as it is to say so; besides which, I think it an objectionable practice. These are unsatisfactory cases at all

times; I mean those on which you are obliged to operate, or which occur during, or as sequelæ to, castration. They are unsatisfactory, because of the very great difficulty of returning the mass of intestine which generally descends, before incurable inflammation has set in; for, although you be called to your patient with as little delay as possible, you will find that, before you can reduce the hernia, the intestine is so much injured by inflammation that recovery is hopeless. I have, however, seen cases—few indeed—where, though a portion of the intestine has been nearly black, the animal has recovered, and done well; one of which was the case E 1072.

I do not think the age at which a horse is castrated has any effect in causing hernia. I mean, I do not think an old horse more likely to become ruptured than a young one. On looking over the only memorandum I have, I find that of the 285 horses referred to below, fifty had adhesions, twenty-five fluid in the scrotum, and four became ruptured: of these, twenty-seven that adhered were ten years old and upwards; twenty-three that adhered were nine years old and younger; twelve that had water were ten years old and upwards; thirteen that had water were nine years old and younger; two that became ruptured were ten years old and upwards; and two nine years old and younger.

The adhesions, I have no doubt, were the consequence of inflammatory action, caused in some by kicks or blows, either purposely or by accident, while in action, &c. In others, occurring from hernia, from the manipulation requisite for reducing it. The fluid in some cases could be detected outwardly, and was, perhaps, produced by the same causes. I have never found cases of this kind longer in getting well than those which were perfectly healthy.

As relates to the age for castrating, I annex the relative ages of 285 horses I have castrated, which I happen to have by me.

Age.	No. of Cases operated on.
20	1
19	1
18 ..	1
17	6
16	20
15	26
14	21
13	10
12	3
	<hr/>
	89

Age.	No. of Cases operated on.
Brought up....	89
11	9
10	22
9	33
8	30
7	38
6	28
5	25
4	11
	<hr/>
	285

Of these

Years.	
10 and over	120
9 and under	165

285

It is almost, I fancy, needless to say, that among so many horses of such various ages, of which some had been fifteen years in the service, the after-effects have been various. Here, again, I do not find the old horses suffering particularly. Some few have, I suppose, from weakly habit of body, though not previously developed, never rallied or fully recovered. They have pined away, becoming living skeletons. One or two have had abscesses formed in the scrotum. Such cases are generally rather tedious. Tetanus sometimes supervenes; not often, however, I am thankful to say. But, I will look through any papers I may have here, and see if I can find any record of this ending. The great majority of subjects are fit for work in three weeks, though I generally keep them quiet for a month.

GENTIAN AN AUXILIARY CATHARTIC.

To the Editor of "The Veterinarian."

11, Glenmohr Terrace, Blackheath, 30th March.

My dear Sir,—I HAVE just procured the number of THE VETERINARIAN in which you notice my communication respecting the gentian; but I think you have not understood, and therefore have misrepresented, me.

I did not use, nor did I recommend it as a *common* purge. I had, or fancied I had, derived great assistance from its use in cases in which I dared not use aloes sufficient to purge, and for this purpose I considered it a valuable discovery; but I had not had sufficient experience to warrant my using or recommending it as a *general* purging compound. I was engaged in a series of experiments as to its utility, when ill health obliged me to leave off; and though, as I told you, at the stud at Oosoor they now use it as a common purging ball, I have advised their not relying on it till experience had proved its utility; however, they have persisted in it, and I believe have had no reason to regret it.

I wish some veterinary surgeons in this country would try it, and communicate the results: in the service there could be no

difficulty. I gave as small a quantity as aloes ʒij, with gentian ʒiij or ʒiijss: in fact, I varied it as the animals varied.

Sincerely yours,

T. HURFORD.

P.S. A surgeon in the Hon. E.I.C. service, a friend of mine, writes—"I have for many years past known that bitter infusions *added* to purgatives (not alone) increase the action of the purgative. I constantly prescribe infusions of senna, or infusion of cheraita or gentian in equal parts, and find that less than half the usual dose of senna purges when thus combined. You will find the cheraita of this country as useful as gentian. Do you know that quinine given in fevers occasionally purges? I do.

"C. J. SMITH,

"Surgeon, Mysore Commission."

REMARKS ON SHOEING.

BY HERBERT HALLEN, V.S. INNISKILLING DRAGOONS.

To the Editor of "The Veterinarian."

Piershill Barracks, Edinburgh, 5th April, 1852.

Sir,—HAVING for upwards of thirty years taken great interest in the subject of shoeing horses, you will favor me by giving insertion to the following remarks:—

To prepare the forefoot for a shoe, a level ground surface is made by a drawing knife and rasp, taking off the usual quantity of horn which would be worn away at the ground surface of the crust. At the toe there is a concavity made for the reception of the foot surface of the shoe at this part, caused by the turning up of the toe of the shoe. The heels are not what are generally termed *opened* by the drawing knife, neither is there a particle of the outside of the crust, sole, or frog removed.

The form of shoe.—This is made flat on the foot surface, and concave on the ground surface throughout, excepting at the toe: which part is turned up so as to have the form (inferiorly) of a shoe worn some time. No clip at the toe or any part of the shoe. The nail holes are countersunk: five are used, three on the outside and two on the inside, placed so as to retain the shoe securely on the foot, and, at the same time, to interfere as little as possible with the elasticity of the horn.

Fitting the shoe to the foot.—Care is requisite to have an equal

bearing throughout on the ground surface of the crust, and the shoe not to project in the slightest degree (outwards) in any part ; the heels of the shoe to terminate evenly with the foot.

What I have advanced will be sufficient, I trust, to invite some remarks from others on the subject ; and, if it is desired, I shall only be too happy to give all the information in my power as to the effects I have witnessed upon this plan of shoeing.

I remain, &c.

ON SHOEING.

By CHARLES PERCIVALL, Veterinary Surgeon, Royal Artillery.

My dear Mr. Editor,—I HAVE lately been devoting much attention to shoeing, and I flatter myself I now have the horses under my care as well shod as any in her Majesty's service. Since it is only by practical experience and attentive observation, from time to time, that the pernicious practices of the smith present themselves to our notice, I will enumerate the chief of them, knowing that your time is too much taken up, and too valuable, to admit of your spending much of it in the forge ; and if they should prove of any use to you, they are at your service.

The shoe I found in use here was made concave next the foot and flat on the ground surface ; than which, in my opinion, nothing can be worse. This shoe I have had reversed, making the latter as concave as the foot will possibly admit of, leaving only sufficient room between the shoe and the foot for the picker to pass freely round, to remove the dirt, &c. To the heels of the shoe I have given an incline plane outwards on the foot surface, with three nails on the inside and four on the outside. The heels, instead of being cut off straight, I have well sloped and about the same thickness as the toe. The shoe one-third as thick at the heel as the toe, recommended by the late Professor, the majority of our horses could not travel in. There are many pernicious practices which smiths in general, if left to themselves, fall into ; viz.

1st, *Mutilating the frogs by improper cutting*.—I have, at length, got my farriers to understand, that the only part of the frog which ever requires cutting, unless ragged, is the point, to prevent the sensible frog being bruised between it and the coffin-bone.

2dly, *Inflicting serious injury to the crust*, by an improper use of the rasp, but especially the coarse side of it.

3dly, *In fitting the shoes, by cutting too much out of the crust at the toe to admit the clip*; the shoe is, consequently, let too far back, instead of being fitted full to the crust; and afterwards rasping away the crust, making the foot, in fact, to fit the shoe, instead of the shoe to fit the foot. This is a faulty practice, and very seriously so, which smiths in general are very apt to fall into; one which renders the crust shelly, from that part into which the nails are driven, from time to time, being rendered weak in this way.

4thly, In turning shoes, smiths in general do not attend sufficiently to levelling or sloping the edge of the shoe from the foot to the ground surface, which I consider of great importance, especially if horses are given to cut or interfere in their action.

5thly, *Cutting the heels of the shoe off straight*.—This is also a very bad practice. If well sloped, like a shoe for hunting, to which there cannot be any objection, they are less liable to be pulled off by the hind shoe catching in them, and more contribute to the safety of the horse and his rider.

6thly, *Leaving the inner edge of the hind shoes at the toe sharp*, which if rounded will in a great measure prevent over-reaches, as well as render the fore shoes less liable to be pulled off by their catching in the heels of the same. Squaring the toe of the hind shoes for horses that forge, or “carry the hammer and pincers,” as it is termed, leaving the horn projecting over the shoe, is, in my opinion, good as a general rule, not only preventing that unpleasant noise, but rendering horses less liable to over-reach and pull off their fore shoes, providing attention be paid to rounding the inner edge.

7thly, *In rasping the under part of the clinches* previous to laying them down, farriers are very apt to apply the edge of the rasp improperly to the crust, forming a deep groove round the same, which cannot but be injurious to the foot, and, together with taking away too much of the crust in finishing off the foot, have a tendency to render it shelly. Curving the shoe at the toe, after the French fashion, where horses go near the ground, I am very fond of; but I cannot see any advantage in it as a general practice.

Your's truly, &c.

Portobello Barracks, Dublin, March 7th, 1852.

CALCULUS IN THE INTESTINE.

BY JOHN BROWN, V.S. London.

To the Editor of "The Veterinarian."

Dear Sir,—READING in your Journal of this present month a case of calculus in the intestines of a horse, as recorded by you, I have sent you the following similar case, which I have lately attended.

In addition to the symptoms you have related, such as pawing and sitting upon his haunches like a dog, with his fore legs stretched out before him, as in the attitude of rising, I noticed in my case, that while in this position he would stretch his neck and head as high as he could, and curl up his upper lip.

The horse was first taken ill on Thursday, 1st January of the present year; but not in the manner you have described your horse to have been "by scouring," for his dung was hard at first; indeed, he was generally costive. No dung passed from him from the Thursday morning I first saw him until Sunday evening, although the most active purgatives and enemas had been given. The horse went on free from pain, and fed tolerably well on bruised oats, chaff, &c. until Sunday, 18th January, when he was again seized with all the former symptoms. Purgatives and enemas were again had recourse to, and they purged him freely for four or five days. Whilst he was purging he seemed quite easy, and at times fed well; but as soon as his dung became hard he was again attacked with all the former symptoms. He continued alternately changing in this way until Saturday 7th of February, when he was shot.

REMARKS.—Throughout the whole of this horse's illness he had a constant cough, and a discharge of thick white matter from his nostrils, more particularly from the right, but without any offensive smell; though there was an offensive smell from his mouth, which continued throughout the whole of his illness.

POST-MORTEM EXAMINATION.—A large stone, weighing five pounds, was taken out of the colon at the part just before it terminates in the rectum. It was of a pyramidal shape, and possessed a rough mulberry exterior. It was of a dung-colour, and its interior appeared to be composed of particles of oat-husks and fragments of earth and stone. I cut it in two, and found two or three small stones, one larger than the rest, in nearly the centre of which seemed to have been the nucleus to the mass. The rest of the viscera all looked healthy.

I remain, dear Sir, your's truly.

23, Whitefriar's-street, April 5, 1852.

PROLAPSE OF THE RECTUM.

By the same.

Sunday, March 14, 1852.—ABOUT eight o'clock in the morning I was requested to attend a horse belonging to Messrs. S ——. I went, and found that he had been cast during the night, and in struggling violently to release himself, had forced out of the anus nearly a foot of the rectum, which looked of a dark purple hue, and was very much distended with air. They had with difficulty got him up when I saw him. He seemed very much exhausted with struggling, was bathed with perspiration, and could scarcely move his hind quarters. I ordered some warm milk and water, and washed off pieces of straw and dung clinging to the intestine; then, by a kind of *taxis*, I worked up the intestine through the anus, and afterwards passed my hand in to feel if it was straight. I ordered him to be clothed up and kept quiet, and to have nothing but some thin gruel or linseed tea. He drank very little of either during the day.

I went round several times in the course of the morning, and found him standing perfectly quiet and easy. About 4 o'clock in the afternoon I first observed him to begin to be uneasy, crouching as if to lie down, seeming to be in pain. The pulse was quick and intermittent. I passed my hand up the rectum, to feel if there was any obstruction there, and drew away some pieces of hard dung: this appeared to afford him temporary ease. I then threw up an enema of warm milk and water, which was retained some time; he then seemed easier. About an hour afterwards I saw him again, when he seemed in great pain. I bled him to as much as he could bear, and gave an ounce of tinct. opii in a pint and a half of linseed oil. About eight o'clock in the evening I saw him again: he was now down, struggling in violent pain, unable to get up without help. When we had lifted him up, I had him well fomented with large pieces of flannel (large enough to cover the whole of the abdomen) wrung out of hot water, with a man on each side to keep them up close to the abdomen. This was persevered in for some hours, and seemed to afford him great relief; so that when I left him, at eleven o'clock at night, he seemed quite easy.

Monday morning, six o'clock.—Still standing, and seemed easy. I gave him frequent enemas during the day, and ordered him to have a pailful of thin gruel standing in the manger before him. He remained tranquil throughout the day, and drank none of his gruel.

Six o'clock in the evening.—We horned down about three quarts of gruel. He appeared quite easy when I left him. About eleven o'clock at night I again saw him, when he seemed to be a little uneasy. I gave him an ounce of tinct. opii in half a pint of linseed oil, and passed my hand up the rectum as far as I could reach, and drew away some more pieces of hard dung, threw up an enema, and then left him. This was at twelve o'clock, when he seemed easy.

Tuesday morning, six o'clock.—I found him standing up, still free from pain. The medicine not purging, I gave him four drachms of aloes in solution, and threw up an enema. His mouth beginning to smell offensive, I washed it out with a solution of nitre. He seemed easy throughout the day.

Six o'clock in the evening.—The medicine not purging, I gave him three drachms more of aloes in solution, and horned down some more thin gruel. At ten o'clock I saw him, when he was lying down in apparent ease.

Wednesday morning, six o'clock.—I again saw him: he was standing up, and seemed easy. No dung had passed from him; but from the rumbling noise there was in the intestines, I thought it soon would. Mouth still smelling offensive, I washed it out frequently with the solution of nitre. At twelve o'clock I saw him again; the medicine not having operated. I passed my hand up the rectum, and drew away a great quantity of hard dung, and threw up an enema.

Four o'clock in the afternoon.—Medicine not purging, I gave him four drachms more of aloes in solution. He seemed tolerably easy until nine o'clock in the evening, when he began to be very restless, wanting to get out. The respirations were quick and painful; he wandered about the box, betraying glassy appearance of the eyes, with anxious countenance, all which made me augur unfavourably for the life of my patient. I remained with him until twelve o'clock, and then left him. He died in a few hours afterwards.

Post-mortem examination.—The double colon was crammed with dung as hard as stones, and was very much inflamed. There were also pieces of dung in various parts of the intestine beyond this, quite hard, resembling dung-balls without any moisture, notwithstanding the fæces anterior to this, in the cæcum, were in a fluid state. There was a large rent in the meso-rectum, and the rectum itself was very much inflamed; all the rest of the viscera being healthy.

I remain, Sir, yours truly.

DEATH OF A MARE FROM INTESTINAL CALCULI.

By Mr. W. A. CARTWRIGHT, M.R.C.V.S., Whitchurch, Salop.

ABOUT eleven o'clock in the morning, 24th June, 1846, I was called in to attend a nearly thorough-bred mare, in high condition, the property of R. P. Jones, Esq., solicitor, of this town, labouring under, as it was supposed, an attack of spasmodic colic. I saw her soon after, and gave her an antispasmodic mixture. In an hour after she was no better; still continued in violent pain. I now took four or five quarts of blood from her, which relieved her; and gave a dose of purgative medicine, and administered enemas. In the course of the afternoon she got perfectly easy, and the next day was all right again.

This was the first attack she was ever known to have in the owner's possession, or whilst in the possession of our rector, from whom he purchased her, extending altogether over a period of three or four years.

On Sunday morning, about eleven o'clock, Nov. 20, 1846, she had another similar attack. I again gave her an antispasmodic draught, and 3v of aloes. In half an hour after she became perfectly easy, and continued so all day; and at night she was supped up, and seemed quite well again.

21st, 6 A.M.—On going into the stable the first thing in the morning she was found to be once more very ill. I was immediately sent for.

SYMPTOMS.—Gets up and lies down often, and sometimes rolls over. Sweats; pulse quick and small; respiration quickened. Gave opening and anodyne medicine at intervals. Took about five quarts of blood from her, which ran from her very slowly, and was blackish. Throughout the whole of the day she was sometimes better, sometimes worse; and at times there seemed scarcely any thing the matter with her.

24th, 11 A.M., she died.

SUMMARY.—From the time that she was taken ill until her death, she was (except at intervals of various periods) restless, rolling over now and then; pawing, wandering about the box, and generally uneasy, and looking towards her sides. Her abdomen never seemed the least distended. From having had all sorts of purgative medicine, her bowels were heard rumbling very much, as if purgation was coming on, though she dunged scarcely any thing from first to last. For the first day or two her pulse was tolerably natural, except when pains came on; but for the last day or two it increased, and was almost imper-

ceptible. On raking her, but few fæces were removed, and none ever came after clystering. While having my hand up the rectum I could feel accumulations of fæces in different parts of the large intestines, though they were not by any means distended or loaded with dung. I could grasp some of these supposed lumps of dung, but did not suspect calculus.

EXAMINATION.—On laying open the abdomen and moving the intestines about, the latter appeared beautifully sound; but, on pulling them out of the abdomen, I discovered a large tumour in a part of the intestines lying on the left side, towards the diaphragm. Having removed them out of the abdomen, I spread them apart, and ascertained that the tumour lay in a narrow part of the single colon, just leading out of its widest part. On laying it open, I found that it contained a large calculus, weighing ten ounces. Its greatest diameter was four inches and a half, its narrowest four inches, and its thickness two inches and a half. Its surface was uneven and irregular, and of a greyish colour. The calculus has not been analyzed. I also found a smaller one, similar to it, weighing three ounces and a half, in the double colon. The large one was completely impacted within the gut; and in the place where it lay a portion of the intestine was almost ulcerated through, and gangrenous.

I have no doubt, from the appearance of the fractured edges of the calculi, but that they had been united a short time before.

CALCULUS WITHIN THE INTESTINE OF A DOG.

By the same.

SINGULAR OCCURRENCE.—ABOUT three weeks ago, a favourite dog, belonging to Mr. Fernyhough, of the Tranmere Hotel, Cheshire, was taken ill. He supposed, it had been poisoned, and sent for Mr. J. W. Jones, veterinary surgeon, of Birkenhead, who gave him some medicine. This was on Saturday last, and he called again on Sunday, when he found the dog dead. At the request of Mr. Fernyhough he made a post-mortem examination, and found that death had been caused by the presence of a large stone, weighing half a pound, in one of the intestines, which had produced inflammation, and terminated in mortification.

Liverpool Mercury, Aug. 6, 1847.

FEVER.

By Mr. JOHN YOUNGHUSBAND, V.S., Greystoke, Cumberland.

THE subject of this paper is a beautiful unbroke-in four-year-old grey horse, which had never before had a collar put over his head, but had been constantly kept out grazing upon good land, with an open shed to run into occasionally. He was purchased by a friend of mine, valued at thirty-five guineas, and subsequently sold to an acquaintance of his, desirous to become his purchaser.

January 20th.—He was taken up from grass, and put into a moderately warm stable, where he had little exercise, with a dietary according. On the evening of the 23d, going to give him his evening allowance, he perceived the horse to be rather dull; hanging down his head, and shivering. Having another stable nearer his own dwelling, to be more under his immediate eye, he had him removed there. This place was much more close and warm than the one from which he had been taken, and, besides, contained other horses. After being in this last place a short time, he began to shew symptoms of more active disease, and, being a valuable animal, my friend lost no time in communicating with me, and requiring my advice. But as his residence was a few miles from mine, and as I was engaged at the time, it was a few hours before I could see my patient. When I did, I may say, I found the horse in as high a state of fever—*pure fever* I called it—as ever it has been my lot to witness.

The Symptoms were—a small quick pulse; breathing much accelerated, as was seen by the quick motion of the flanks, expanded nostrils, &c.; shivering; visible mucous membranes highly injected; ears and legs cold; dung hard, and passed in small knobs, and covered with mucus. From the foregoing symptoms, I deemed it requisite to subtract a large quantity of blood; believing that, if the lungs were not already implicated in the complaint, they most likely, under existing circumstances, very soon would become so. Now, from the particular state of the pulse, I kept a guarded watch over it while the blood was flowing; but, ere five pints were drawn, the horse shewed symptoms of syncope, and but for timely assistance would have fallen backwards. After pinning up the orifice, he was offered a little warm water, of which he partook very sparingly, and then he appeared to be easier. In the mean time he had a fever ball. Well, just as we were congratulating ourselves upon his recovery, all of a sudden the horse shewed symptoms of severe colicky pains: lying down, and as suddenly rising again; stamp-

ing with his hind feet, and scraping the litter with his fore ones. I now saw the danger was increasing; and, right or wrong, gave him a large draught of tinct. opii cum spt. æther. nit. in a little warm water. This acted like a charm, the animal being almost immediately relieved, and continuing to be so; though still he remained dull, hung down his head, and refused his food; while the visible mucous membranes still continued of a florid red colour. Not having his owner to answer our call, I deemed it advisable to let him know in what state the horse was; but, as he resided at a distance of sixteen or seventeen miles, and it was getting late in the evening, it was not without some difficulty we could obtain a person to undertake the journey; however, we did meet with one, and to our satisfaction. After having instructed him what to say, as well as to request the owner to bring his own veterinary surgeon back with him, if he thought proper, he started off on his journey, nor was he late in bringing the owner to the place. But, alas! when he did come, instead of complimenting us for our kindness, he began by remarking, he thought we had been too hasty, and needed not to have sent for him. Thus, I saw I had been reckoning without my host. He next inquired how we had been treating him. To which I replied, I had done what I deemed necessary until I had consulted him, or received further orders, or otherwise had been dismissed from my office. He now sent for a bottle of oil, and remarked, we ought to have given a bottle of castor oil in the first place; he always did so, and always succeeded. He threw up an injection, and finished with some minor operations. After witnessing these proceedings, I considered the patient out of my care, and so I gave him to understand it was my intention to leave the animal entirely to his own care; and, as we were strangers to each other, he had better call in some other advice, my opinion being, that the horse's recovery, to say the least of it, was very doubtful. To which he replied, he "never employed any doctors," or "ever lost a horse in his life." In this manner I left, and considered myself vindicated in doing so.

25th.—At mid-day, my friend called upon me again, and requested that I would re-visit the horse, as he had got much worse since I left. To this I made objection, for the reasons above stated; but after a little coaxing, I submitted, and went. On arriving at the place, hearing the statement of the owner, the apology he appeared to make, together with the freedom with which he placed the animal under my care, I again undertook to attend upon him. On viewing my patient, I soon saw that all his former symptoms had re-appeared, and with redoubled violence, except that the colicky pains were not so severe.

TREATMENT.—The horse had been bled previously to my arrival; but as no abatement of the disease had taken place, I judged it requisite to repeat the operation, and again let the vital fluid flow until syncope was about to take place. After arresting the flow of blood the horse appeared very sick indeed, and I considered myself in error for having allowed so much blood to be lost. But in a short time he rallied, and appeared quite relieved. After this I administered a fever ball, combined with a little laxative medicine, his bowels not having responded to the oil. I next blistered his sides extensively, considering it preferable to rowels or setons, although the owner wished them to be had recourse to. I told him, however, if I was to treat the horse—and he must excuse me for saying so—I wished to, *and must*, have my own way of doing so. Next, I had his legs well bandaged with flannel, also an additional covering thrown over him, with other little doings of minor importance.

The laxative fever medicine was repeated every eight hours, along with injections, and his legs well hand-rubbed, such things being offered him to eat as we deemed most proper. But as to eating, he persisted in refusing every thing. In this manner he was treated until the evening of the 26th. I may here remark, that up to this time I had been in constant attendance. Visiting him, as I did, very often, his symptoms were found to change so much from better to worse, and *vice versâ*, that I scarcely could anticipate, when I next paid him a visit, how I should find him. But on the evening of this date I thought him improving. The blisters were acting well, and the bowels slightly responding to the medicine. So I left for home, business compelling me so to do.

27th.—This morning I was hastily summoned again, in consequence of the horse having got worse during the night. When I arrived, I found him breathing laboriously, and at times coughing; his ears and legs cold; mucous membranes red or orange red (indeed, these all along had remained so); mouth hot and dry; pulse quick; and no evacuation per anum. Beholding him in this state, I thought it was now all up. I again resorted to the lancet; took blood until the pulse warned me to desist; gave a laxative, and fever draught; threw up an injection; and waited to see the result. In the space of fifteen or twenty minutes the quickening of the pulse had materially quieted down; the respirations had become slower; mouth cooler; with a copious flow of excrement along with the injection: also, the visible mucous membranes were much paler, this being the first time bleeding had made any impression upon them. I may likewise here remark, that at the different times blood was abstracted,

it shewed but very little of that buffy coating we are wont to see in fevers and inflammatory complaints in general; from which circumstance, and from the pulse, I drew my inference that the horse would not bear large bleedings. But mark! the last time we took blood it shewed a large portion of the buffy coat; a circumstance in which I place a good deal of reliance, although it be not in accordance with the theory of many of our leading practitioners—of whom I humbly crave pardon for this transgression; but my readers will find, from the sequel, that the last blood drawn shewed the most buffy coat, and that this venesection had the most effect. I now presumed to think we had gained a favourable point. I gave a little medicine, and sanctioned the horse having any thing offered he would eat; and left once more for home.

28th.—Called again. The animal all wrong; cold, deathly cold; hanging his head and ears; refusing every thing in the shape of food; and, in the language of my friend, “appearing to be in a dying state.” I, however, concluded that his former disease had been arrested, and, as is sometimes the case, that debility had succeeded.

This conclusion led me to the adoption of diffusible stimulants, which soon caused him to rally. I staid with him all night, until the morning of the 27th, when I found him so much amended that I could almost have pronounced him out of danger; for he now ate with an avidity that seemed strange in the eye of those who had been accustomed to view him in his former state. The blisters have acted severely; the mucous membranes have become natural; the ears and legs warm; the mouth cool, and tongue clean; passing his fæces freely, and urinating copiously. After giving directions for his future treatment, I again left.

February 1st.—Called to see my patient; found him progressing favourably.

6th.—Saw him again; rather dull; does not feed so well; ordered him some more medicine, along with spt. æth. nit. and tinct. opii. From this time he kept gradually improving; and on the 27th he left, to all appearance quite well, shewing no symptoms of his former complaint, except the marks from the blisters. I now had him removed to a large, cool, airy box, where he had free liberty to exercise himself as he thought proper.

ENDEMIC DISEASE BREAKING OUT AMONG LAMBS.

To the Editor of "The Veterinarian."

Sir,—Should you deem the following account worthy of a page in your valuable Journal, it is quite at your disposal.

I am, Sir,

Your's obediently,
V.S.

A DISEASE has lately broke out amongst the young lambs of the flock of one of my employers. It is an affection of the joints of the extremities. The complaint first made its appearance about a fortnight after the commencement of the lambing season. When my attention was first directed to them, two or three lambs only were attacked. One of these died. Next day, two others shewed symptoms of the disease, and, shortly afterwards, several more became affected simultaneously; others continuing to fall almost daily. The earliest symptom observed is lameness in one or more limbs, which soon becomes considerably aggravated, accompanied by swelling of the joints affected, commonly of the knees and hocks: these joints generally being attacked first. In some cases, the lameness is confined to one leg; in others, two are affected; in others, three; and in some, all four of the extremities become diseased. In the worst cases the poor little animal is continually lying down, being totally incapable of bearing any weight upon its limbs, and evidently suffers much pain, there being manifest constitutional derangement. They will continue lying in this state sometimes for days, supported by drenching with milk. In the latter stages, respiration becomes laboured and difficult, a grunt being emitted at each expiration; pulsation is also accelerated; while death soon ends their sufferings. In some, catarrhal symptoms are observed, such as discharge from the eyes and nose, &c. The enlargements are situate, for the most part, at the front of the knee and inner side of the hock joints, and in some cases attain great size: they are elastic and puffy to the feel, and evidently contain fluid. The fetlocks seem to be the least disposed to become affected, one case only occurring in which this joint was diseased, and that one recovered. The disease is not confined exclusively to the joints; for in a few instances it has extended to the muscles of the arm and thigh, &c.

This malady does not yield much to treatment. In the first instance, a dose of the ol. ricini, combined with a carminative, was generally administered, with stimulating applications to the affected joints; but this was productive of little benefit. Colchicum, &c. was tried, all without any good effect however,

until, ultimately, our medical treatment was discontinued altogether. When the swellings appeared fit, I evacuated the fluid by making an incision with a lancet, and in some cases a surprising quantity of fluid escaped. The matter varied in character, in some being bloody and thickish in consistence; in others, of a straw colour, thin, and intermingled with small masses of curdled matter. Altogether, upwards of a score lambs have died, and some few, which have had the disease but slightly, have recovered.

THE POST-MORTEM APPEARANCES are much the same in the different subjects. On removing the skin from about the joints, an appearance of inflammation is commonly met with, blackish in colour, from the extravasated blood; a quantity of fluid generally escaping the while, of a dirty reddish colour, bearing the character of unhealthy pus.

On severing the diseased joints, a similar fluid is found within the capsular ligament, the synovial membrane being inflamed and injected. The same appearances are met with in the different joints affected, varying somewhat in degree. In some cases I have found the whole of the joints of the extremities diseased, except the fetlocks, these being the only normal joints; the membrane and synovia in them being healthy—the latter both in quantity and quality. In some instances the muscles of the extremities are diseased. On an incision being made, fluid escapes from these parts, sometimes in considerable quantity.

The viscera of the abdomen and thorax were, in most of the subjects I have examined, healthy: in one instance, traces of inflammation were visible about the heart, particularly at its apex; but no fluid could be detected within the pericardium.

I am unable, satisfactorily, to account for the cause of this malady. Several probable causes have been suggested, but neither of them is supported by a consideration of the facts. The following appears to me to be the most plausible:—At the time when the disease first appeared, and during its continuance, the weather was very dry, with north and north-easterly winds prevailing; the nights being sharp, clear, and frosty, and severely cold; the days comparatively warm. Now, I am inclined to think, that the extremes of temperature, acting perhaps conjointly with other causes, may have had something to do with the production of the disease, though I have not heard of any other lambs in this district being similarly affected. The disease seems to have no predilection for the weakest or youngest lambs, as some of the strongest and best of the flock have fallen victims.

Having trespassed so long on your valuable time by this hasty account, I will abstain from further remarks.

EXTIRPATION OF A CARCINOMATOUS SUB-MAXILLARY GLAND.

By THOMAS J. MERRICK, M.R.C.V.S., Northampton.

Sir,—I HAVE this day sent you, per passenger's train, in a bottle of Goadby's solution, a carcinomatous submaxillary salivary gland, of which the following is the history, which, if deemed by you of interest, is at your service.

The subject of the diseased production is a brown draught horse, standing nearly seventeen hands high, ten years old, the property of Messrs. J. Perry and Son, millers and corn dealers, of this town, in whose possession he has been for three years. I am informed that for the last twelve months he has been under treatment for what was considered by his attendant to be a false description of strangles, but which never satisfactorily healed.

My attention was directed to the case on the fifth of March last, in consequence of a discharge of matter shewing itself at the upper and posterior part of the maxillary space. My first impression was that an abscess had previously existed, which had too speedily healed over. I therefore freely dilated a small sinuous opening which presented itself, and had poultices applied; but, on the 10th, after minutely examining the parts, I detected a slight separation in the skin, extending from the original opening down the submaxillary space, on the off side to the angle of the jaw, at the place where the parotid duct, artery, and vein pass round it. I extended the separation alluded to, and exposed the termination of the diseased gland; on cutting into which its true nature occurred to me; and I immediately determined (if possible) on its entire extirpation. This I succeeded in effecting after a tedious dissection, fortunately without injury either to the parotid duct, or to other important vessels of that part. The wound has continued to heal most favourably, and a small cicatrix is now the only evidence of the existence of any previous disease.

The horse, since its removal, has improved in condition rapidly, and is now apparently in perfect health.

I remain, Sir,

Your obedient servant.

W. Percivall, Esq.

April 12th, 1852.

*** The preparation—for which we thank Mr. Merrick—has come safe to hand. The operation reflects no less credit on the skill, than the case does altogether on the judgment, of the operator.—ED. VET.

PEMPHIGUS IN THE OX.

By ISAAC SEAMAN, Veterinary Surgeon, Saffron Walden.

To the Editor of "The Veterinarian."

Sir,—I AM induced to request that you will insert the inclosed case in the pages of your valuable publication. By so doing you will oblige.

The disease to which I am about to allude, seems of rare occurrence, having neither read nor seen any thing similar; it very much resembles pemphigus in the human being.

CASE. *March 14/h, 3 P.M. 1852.*—I was requested to attend a short-horned bullock, aged three years, the property of C. Nash, Esq., Hinton Hall. I found him suffering severe inflammation in various parts of the skin. His food had been suddenly changed from hay and straw to beet root. Epsom salts ℥j, nit. potass. ℥ij, pulv. zingiberis ℥j, pulv. gent. radic. ℥j M. had been given him, six hours previously to my seeing him: the time being when the bullock was noticed ill.

SYMPTOMS.—Breathing hurried and sonorous, and a slight cough. There was universal shivering. Skin of neck, shoulders, arms, loins and haunches very much swelled and inflamed. Effusion of serum had taken place, elevating the cuticle in places, forming bullæ or bladders, varying in size from a small nut to a fowl's egg. In other places, a thin transparent fluid was freely dropping from the hair, and in some places in quite a stream. The ears were drooping and moist, and their temperature much elevated; horns similarly heated, and purple in colour; legs and mouth hot; tongue considerably enlarged. Mucous membrane of eyes highly injected, and tinged with yellow. The saliva was flowing from the mouth. Pulse 80, and almost imperceptible at the jaw; heart's action irregular; back arched upwards, and pain evinced on pressure; urine scanty and dark coloured; fæces liquid, and pale straw-coloured. The beast could but with difficulty be moved.

TREATMENT.—Hyd. chlor. ℥j, hyoscymi ext. ℥ij, in mucilage, given immediately; and the following mixture every four hours: gum. camph. ℥j, hyosc. ext. ℥j, liquor ammon. acet. ℥ij, antim. pot. tart. ℥j. The beast to be placed in a sheltered shed, warmly clothed with blankets, and littered with straw knee deep. Boiled turnips and linseed porridge offered as food.

March 18th.—I found my patient eating bran and cut hay: also that he had, during the night, partaken of linseed porridge and bran freely.

SYMPTOMS.—Breathing still hurried; shivering almost ceased; swelling not extended; some of the bullæ have burst, exposing broad excoriated patches; heat of the skin and horns about the same as yesterday. Ears hot and drooping; tongue enlarged; mouth hot and filled with saliva; pulse 70 and feeble; heart's action irritable and irregular; mucous membranes of the eyes injected; urine scanty and dark coloured; fæces liquid and straw-coloured. The beast lies down and rests pretty well, but does not ruminate.

TREATMENT.—Hyd. chlor. ʒj, tinct. opii. ʒiiss given in mucilage, immediately. The following mixture to be given every four hours: gum. camph. ʒj, hyoscymi ext. ʒj, ether. nitric. ʒj, liquor. ammon. acet. ʒij. Food ordered yesterday to be continued.

March 16th.—Much improvement is apparent. The bullock has eaten freely; breathing more tranquil, and not sonorous; there is no shivering; horns still hot and discoloured; temperature of the skin reduced; pulse 50, and regular; heart's action regular; urine plentiful, and straw-coloured; fæces darker in colour, and of firm consistence. Much swelling of the skin has subsided. The effused serum and other excretions of the skin have begun to dry up into yellow brown crusts.

TREATMENT.—Gum. camph. ʒj, nit. potass. ʒij, liquor. ammon. acet. ʒij, morning and night.

March 18th.—My patient is fast recovering. Rumination commenced yesterday, and food is taken in sufficient quantity; skin possesses its proper heat; countenance lively; tongue reduced to its natural size; pulse 45, and regular; heart's action regular; the bullæ have burst, and the discharge concreted into superficial scabs. The swollen skin, as noticed in first day's report, and which was giving rise to such profuse exudations, is covered to a considerable thickness. Those parts of the skin feel like a board.

TREATMENT.—Gum. camph. ʒj, nit. potass. ʒij, to be given morning and night for a few days. Clothing gradually removed; and to have, for food, bran, hay, and linseed cake. Medical treatment is now suspended. The health of the bullock seems almost restored. He has a good appetite, and ruminates regularly. There is loss of hair from various parts of his body, giving him an appearance of disfigurement.

ADVICE TO VETERINARY SURGEONS PROCEEDING TO INDIA.

To the Editor of "The Veterinarian."

Sir,—ALLOW me, through you, to give a very valuable hint to veterinary surgeons who are written to from firms in India (i. e. livery stables) to come out to take the veterinary charge, and the veterinary profits, of an establishment.

Let no professional man, however small his practice may be in England, think of accepting the proposal of any firm without he be made a partner from the very day of his arrival in India.

The veterinary surgeon is the best man of the establishment, and he is the partner who brings most money into the establishment. The public like a professional man with an establishment, either as a partner or as one doing the work; and if there be not one, they send their sick and lame horses where there is professional skill; therefore I say, let the professional man stand for his rights.

I am, in haste,
A ROYAL COLLEGE V.S.,
in the E.I.C.'s Service.

Madras, February 1852.

SURGERY IN THE OLDEN TIMES IN SCOTLAND.

To the Editor of "The Veterinarian."

Sir,—NOT having heard from your "Sporting Surgeon" lately, I presume he has by this time altered his opinion of the mean practices he supposed our profession led us into; and, though he may think his own so much superior, I am not sure if that improvement has been effected at the rate, and arrived at the proficiency, ours has in so short a time.

We are told, barbers were the first surgeons. The brass plate they hung out on the end of a pole, and the red ribbon twisted round it as their sign, were used in old times as emblematic of the bandage and measure used in bleeding their patients. I send you the following as a kind of curiosity in the old broad Scotch way of the original Seal of Cause, by the Magistrates and Council of Edinburgh, in favour of the Surgeons and Barbers there, July 1st, 1505.

J. HORSBURGH.

“To all and sundrie, to quhais (*whose*) knowledge thir present letteris shall come, the Provost, Ballies, and Counsell of the burgh of Edinburgh, greeting, in God everlasting, witt your Universities, that the day of the daite of thir presents compearit before us, sitting in judgment in the Tolbooth of the said burgh, the Kirkmaster and brethir of the Surregians and Barbours within the samen, and presented to us their bill and supplicatione, desiring us for the love of God, honour of our Sovereign Lord, and all his leidges and for worship and policy of the burgh, and for the good rule and policy and order to be made amangest the said crafts in tyme to come, that wee would grant and consent to them the preveledges, rules, and statutes containd in their said bill and supplicatione quhilk (*which*) after follows.

“To you, my Lords, Provost, Baillies, and worthie Counsell this Guide Toun (*good town*), right humbly means and shaws your dailie servitores the Kirkmaster and Bretherin of Surregians and Barbours within the burgh. That wheras we believe it is well knawn till all your wisdomes, how that we uphald ane alter situated within your college kirk of St. Geil (*St. Giles*) in the honour of God, and St. Mungo, our patron, and had na importance till uphald the samen (*same*), but our sober ouklie pennie (*weekly penny*) and upsets quhilk are small in effeck to sustain and uphald our said alter in all necessair things conveyneant therto. And because we are, and ever were, of good mind till doe this guide Toun all the steade, pleasour, and service we can or may, baith in walking, wairding, stenting, and bearing all other portable charges within this burgh at all tymes as other neighbours and crafts doe within the samen, we desire of your lordships and wisdomes till geiff and grant till us and our successours thir rules, statutes, and priveledges under written, quhilk (*which*) are consonant to reason, honour to our sovereign Lord and all his leidges, profitable and lovable to this Guide Toun: In the first place, that we might have yearly chosen amangst us ane Kirkmaster and other Masters to quham the haill bretherin of the crafts foresaid shal obey for that year. Item, That nae manner of persones occupy nor use any poyntes (*points*) of our said crafts of Chirurgerie or Barbourcraft, within this burgh, but gif he bee first freeman and burges of the samen, and that he be worthie and expert in all the poyntes belangand to the said crafts, diligently and thouroughlie examinid and admitted be the master of the said craft for the honourable serving of our Sovereign Lords, leidges, and neighbours of this burgh. And also that every man that is to be made freeman and master amang us be examined and proved in the poyntes following; that is to say, that he knaw anatomia, nature and complexions of every member of humans body; and likewayes that he knaw

all the vaines of the samen, that he may make phlibothmia in due tyme ; and also, that he know in quhilk member the signe has dominatione for the tyme ; for every man aught to knaw the nature and substance of every thing he works in, or else he is negligent. And that we may have ance in the year a condemned man, after he be dead, to make anatomia of, quhairthrow we may have experience ilk ane (*every one*) to instruck others, and we shall doe sufferage for the saule (*soul*). And that nae Barbour, master nor servant, within the burgh, haunt, use, nor exerce the craft of surrgeriee, without he be expert, and know perfittlie the things above written. And what person that shall happen to be admited freeman or master to the said crafts, or occupys any poynte of the samen shall pay, at his entrie, for his upsett, fyve pounds, usual monie of Scotland, for reparations and uphauling our said alter of St. Mungo for divine service to be done therat ; and ane dynar (*dinner*) to the masters of the said crafts at his admission and entrie amang us. Exceptand (*be-seeching*) that every freeman master of the said crafts, ane of his lawful begotten sones to be free of onyie monie paying, except the dynar to the masters after he be examined and admited by them, as said is. Item, That na master shall take ane apprentice or servant man in tyme coming till use the surregaine craft without he can baith read and wryte ; and the said master of anie of the said crafts that takes ane apprentice, shall pay, at his entrie, to the reparation of the said alter, twentie shillinges ; and that nae master of said craft resett nor receave anie other masters apprentice or servant while the issue of his terms be to run. And quha (*who*) that does to the contrair theroff, also oft as he failis (*fails*), shall pay twenty shillinges to the reparation of said alter. Item, Every master that is receavet into the said crafts shal pay his ouklie pennie (*weekly penny*), with the prists meil, as he shall happin to come about ; and every servant to the master of the said crafts shall pay ilk ouke ane halfpennie to said alter. And therefore we grants and consents to the samen to the foresaid crafts of Surregiarie and Barbours, and to their successors, and we sae far as may, or hae the power, confirms, ratifies, and approves the said statuts, &c., in all poyntes above written. And this to all and sundrie quham it affeirs, or may affeir, we make it known by our letters ; and for the more verification and strength of the samen, wee have hereto hingand our common seale of cause. Att Edinburgh, the first day of July, the year of God 1505."

This seal of cause was confirmed and ratified by Charter of James IV, 13th October, 1506 ; by James VI, 6th June, 1613 ; by Parliament, 17th November, 1641 ; by Charles II, 22d Aug. 1670 ; and by repeated Acts of the Town Council.

Foreign Extracts.

ON THE FECUNDITY OF MULES.

As reported on to the National and Central Society of Veterinary Medicine.

By M. L. PRAUGE, V.S. at Paris.

THE following is related by M. Lecomte :—

On the 30th December, 1844, a she mule, about twelve years of age, belonging to M. Duval, miller and farmer at Montpinchon, aborted. The owner and the muleteer, when questioned concerning the event, gave out, that in July 1844 she experienced frequent horsings, and received several leaps from an entire horse, which were witnessed by the men looking after them: the mule herself soliciting and receiving the leaps with pleasure. One day, without it being known that she was in foal, the mule, loaded at the time with a sack of flour, slipped down upon the ice, and made violent ineffectual efforts to regain her feet. Five days afterwards abortion took place. The fœtus M. Lecomte sent for the inspection of the members of the Society, in order that the fact might receive every confirmation; and now the same is preserved in the museum of the Alfort School, for which Lecomte had originally destined it.

When we go back and consult ancient authorities on this matter, we find both Greek and Latin authors, philosophers, physicians, hippiatrists and agriculturists, all mentioning the subject.

Aristotle speaks of a mule becoming pregnant; but as the primogeniture was nowise perfect, it never saw the light. He also informs us of a she-mule having twins, and that, such was the superstition of the age, the event was regarded as the presage of the most horrible catastrophes.

Herodotus relates that when Darius was besieging Babylon, the Babylonians offered no resistance; but, on the contrary, they shewed themselves upon the ramparts, and made fun of Darius and his army; while one of them came forward and cried out—“What is the use, Persians, of losing your time in this manner before our walls? You had better retire. You will capture Babylon when mules shall bring forth!” Little thought the Babylonian that a mule had ever bred. After a year and seven months of siege, it happened that a mule of Zopyrus, son of Megabysus, which was employed in carrying his provisions, had a foal. And the event became to Zopyrus the presage of the capture of Babylon.

Juvenal evidently held similar belief on the infecundity of the mule, since in one of his satires he says—

Egregium sanctum que virum si cerno, bimbri
Hoc monstrum puero, et miranti jam sub aratro
Piscibus inventis, et fœtæ comparo mulæ.

Herodotus also tells us, that at the time Xerxes was marching his army to Greece and crossing the Hellespont, a mule brought forth a young one.

Varro saw a mule produce at Rome.

Magon and Denis assert that the she-mule and mare, when once in foal, go *twelve* months.

Jules Ossequente says that the war between Cæsar and Pompey was announced by the accouchment of a mule.

Pietro Valeriano speaks of a mule foaling at Rome in the year 1518; and adds, that the epoch was rendered celebrated by the apostacy of Luther.

Scaliger, in his commentary on Aristotle, says that a mule had young twice.

Buffon cites the circumstance of a she-mule, in the island of St. Domingo, having given birth to a he-mule.

M. de Nanzio, director of the veterinary school at Naples, has taken considerable pains to make us acquainted with a similar occurrence in the parish of Anzano, province Capitanata, (Sicily), in July 1844, in a mare-mule, the property of Francesco Mastrangelo. In this memoir, M. de Nanzio has been at the pains to make sketches both of parent and offspring. Nevertheless some doubt hangs over the genuineness of this produce.

It is worthy of remark, and observation seems to have confirmed its exactitude, that mares covered by stallion asses become invariably impregnated at the first leap, while the contrary happens between the ass and the horse. Speaking metaphorically, the ass seems to corrupt and destroy the generation of the horse. Indeed, according to M. Lecomte, if we give a mare first the horse, and the next day or the same day, or subsequently, give her a stallion ass, she will almost invariably produce a mule and not a horse; though the contrary to this does not happen when the stallion ass is given first, and the horse afterwards, to the mare; the offspring being still a mule. This is, however, a fact calling for confirmation.

But let us now inquire the reasons why these hybrids prove barren; though we know that they are not altogether so.

Some authors assert that differences are to be found in the anatomy of their genital organs. Although various alleged differences in the organs themselves, or in their secretions or products, have been pointed out, we believe that they all need substantiation.

To M. Pouchet (of Rouen) are we indebted for what positive knowledge we possess regarding the operation of conception, he having lifted the veil of mystery in which the act was previously enveloped. In his beautiful and remarkable work, M. Pouchet has demonstrated :

1stly, That mammiferous animals and the human species experience a spontaneous and periodic ovulation.

2dly, That ova are emitted at determinate periods, readily appreciable.

3dly, That fecundation only happens when the passage of the ovum through the sexual canal coincides with the presence of the seminal fluid.

4thly, That fecundation takes place either within the uterus or within the horns or vicinuous regions of the organ.

He has also shewn, contrary to the opinion generally entertained, that it is not through the *aura seminalis* that fecundation is effected, but by the thickest of the sperm, that part in which is really to be found the greatest number of spermatozoa.

Now, let us consider the question, whether the ova of the mule are susceptible of fecundation; or whether it be that the sperm of the horse-mule lacks the property of fecundating. At the present day, it is incontestable that the ova of some mules are insusceptible of fecundation, notwithstanding their procreative organs be perfect, and yet all mules may not be impregnable. What, then, are the causes of the infecundity of mules? Of this secret we remain ignorant, and in all probability ever shall. And as to the prolific property of the sperm of the male mule we know nothing for certain, only that the animal is in possession of his organs complete.

Are the horse and the ass more likely to impregnate the she-mule than the he-mule is? To this question we may reply in the affirmative; but the ass is more likely to succeed than the horse, on account of the greater similarity of nature. Nevertheless, the greater number of mules are said to be bred from horses covering mare mules, though the reverse may have been the case. In regard to mules themselves, we know of no instance where fecundation has taken place.

In the instances we have related of mules having been known to breed, it may be remarked that they almost all have occurred in hot countries, such as Greece, Italy, Spain, Africa, &c. The one Lecomte has given us, occurring in the temperate climate of the west of France, being an exception.

We shall terminate this report with a repetition of what we know on the subject in question at the present day :—

1st, That mules, males and females, between themselves, are incapable of reproduction—are, in fact, barren—notwithstanding

anatomy has failed to discover any defect in the generative organs of either sex.

2dly. That the she-mule, *sometimes*, admits of impregnation by the horse or ass, though this constitutes but an extremely rare exception; the reason of which, probably, may be less difficult to find out than the fact even of its infecundity.

To which we may add,—

That such adulterous unions between horse or ass and she-mule, destroying, as they do, the characteristics of the mule, would be sure to result, through the parents with the offspring or through the offspring between themselves, in a return after several generations to products of the primitive type, that is to say, to the horse and the ass.

Journal des Vétérinaires, 7bre, 8bre, et 9bre, 1851.

OBLITERATION OF THE LEFT BRACHIAL ARTERY AND ITS BRANCHES, PRODUCING INTERMITTENT LAMENESS IN THE HORSE.

AN entire horse, suited for heavy draught, eleven years old, was admitted into the College on the 14th of July, and destroyed on the 25th of the same month.

This horse was purchased on the 14th of June of a dealer in Paris, and immediately put to work, exhibiting all the signs of health. Eight days afterwards, with a heavy carriage to draw, after having trotted about twenty minutes, he fell suddenly lame in the near fore leg. No cause for the lameness was discoverable. He was rested for some days, and the lameness disappeared. He was put to work again, but this time was not driven out of a walk; when the lameness did not recur.

On the 6th of July, after another rapid trot for about twenty minutes, he fell lame a second time, as he had done before. This time, however, the driver, instead of taking any heed of it, drove him on even at a faster rate. He had hardly advanced 160 yards further, however, than he stopped all at once and fell down in the shafts. When led to his stable, he appeared in great pain, as though he were "griped." A veterinarian was called, who bled him, and in a quarter of an hour he was all right again.

Several similar attacks were subsequently experienced: in fact, according to his owner's account, it only required trotting for fifteen or twenty minutes at a time to induce one.

ON HIS ADMISSION INTO COLLEGE, the 14th July 1851,

he exhibited all the characters exteriorly of health, save that he was lame enough in the near fore leg, which his master attributed to the fatigue of his journey thither. He said, however, in half an hour all would be well again.

While standing at rest, the knee and fetlock joints of the lame limb are much flexed, the foot reposing upon its toe upon the ground, the hoof being, in a manner, reversed, though at times he stretches out the limb in front of him, or rests the foot upon its heel; or he leaves it dragging behind him in an extreme state of flexion: all indicating a continued degree of pain. In this condition, if walked out, he refused to bear any weight upon the limb whatever, not even touching the ground with it.

The shoe being taken off, the foot was found dry, inclined to flatness, sonorous under percussion, insensible to all pressure. Careful examination of the limb discovered nothing amiss. As the owner had predicated, the lameness disappeared in less than half an hour, and the paces of walk and trot were now performed with perfect freedom.

M. Bouley, after an hour and-a-half had elapsed, ordered that the animal be put into harness afresh, and trotted for the space of a quarter of an hour. At departing, no lameness could be seen. Scarcely, however, had five minutes elapsed under exertion, when the lameness was observed commencing in the near fore leg, which, though at first trifling, so rapidly increased, that at the end of thirteen or fourteen minutes the near fore foot refused to take its bearing upon the ground. Carried in the manner it was, the limb seemed to be too long for the body, and consequently was dragged along the ground. In this condition the horse was stopped; scarcely, however, had this been done, when, as before, he fell down in the shafts, out of which he was taken, and led, hopping upon three legs, into his stable. Here his respiration became agitated; and his countenance manifested sharpness, evincing uneasiness and pain. Shortly after he broke out into a sweat, and commenced stamping and drawing up his neck, as though he felt acute abdominal pains. In fact, he was like a horse suffering from gripes; though in all his various movements his halting limb was dragged along the ground. Within the space of twenty minutes the animal was up and down fifteen times. The pulse was intermittent, strong, and 100 in a minute.

There was one very remarkable symptom, which was, that while other parts of the body and the other three limbs were hot and streaming with sweat, the lame member had become dry and cold: indeed, to the feel of the hand the sense of cold was most perceptible.

In about twenty minutes these symptoms subsided, and the

limb began to recover its mobility, insomuch that in half an hour the animal presented once more all the appearances of health. Indeed, to look at him an hour afterwards, so completely had he recovered himself, that one might have doubted he was the same animal.

After a repose of two hours he was submitted afresh to the same trial as before. As on former occasions, on setting out he went perfectly sound; though four minutes had hardly passed under exercise before he commenced shewing lameness, feebly at first, but gradually increasing until the near fore leg, as before, had become incapable of being set down. This exertion was followed, under rest, by the same phenomena as before; though it was remarked that the return to regularity of the functions occupied a longer time than it had formerly done.

DIAGNOSTIC.—Obliteration of the principal arterial vessels of the near fore limb, a diagnostic founded upon the following indications:—

1stly, *Upon the intermittence of the symptoms.*—So long as the circulation is slow, the small arteries, collateral to the obliterated trunks, prove equal to convey to the muscles what blood is requisite for their sustention of contractility. But from the moment such contractility is put into action, and under exercise continued in it, these organs no longer receive the amount of blood they require for their stimulation, and in consequence experience a sort of momentary paralysis for want of such due stimulation.

2dly, *The abatement, after exercise, of the temperature of the lame limb.*—This is the indication of the limb no longer receiving its normal quantity of blood, the consequence whereof is, the molecular combinations, of which contraction and the development of caloric are the effect, are no longer duly carried on within the substance of the muscles.

3dly, *The absence of all appreciable alteration* to which such symptoms as have been detailed could be referred, added to *the insufficiency of any lesion, save the obliteration of the vascular orgasm*, to account for them. Any lesion of the principal nervous chords of the limb would give rise to a *settled paralysis*, and *not* to any intermittent affection, as in the case before us; while any muscular alteration would likewise produce *continued* symptoms and *not intermittent* ones.

3dly, *Certain similar cases of lameness*, observed in former times, and recorded in veterinary annals, stand in confirmation of such diagnostic inductions. M. Bouley, junior, in 1825, published a case wherein, after a certain length of exercise, symptoms made their appearance—first, of excessive lameness in the hind limbs, afterwards of absolute inability of motion, to

that degree that the animal fell down unable to rise, at a time when the circulation had become tardy; the post-mortem examination of the case shewing that the principal veins of the affected limbs had become obliterated. And M. Goubeaux, in his paper on Obliterations of the Aorta, (*Recueil*, vol. xxiii, p. 578), has published analagous cases. Moreover, we may mention, that MM. Renault, Bouley, jun., and Goubeaux, to whose examination the horse in question was at the time submitted, all agreed, without any communication between themselves, in the same opinion.

PROGNOSTIC.—This is, of course, an incurable disease. Instead, therefore, of any treatment being attempted, the owner was recommended to have him put to death. This was not done, however, until the 25th of July, during which interval several fresh observations were made of the case, not materially differing from those that have been recorded, only in so far as—

1stly, That it was remarked that less and less exertion became necessary to induce the paroxysm; indeed, a minute's action sufficed at last to bring on the lameness.

2dly, That the paroxysm became of much longer continuance, and was followed by greater prostration.

3dly, That the abatement in temperature at every successive attack became more manifest in the superior regions of the limb, so that at last the arm and shoulder became cooled down, after exercise, to as low a degree as the inferior parts.

4thly, That this abatement continued for a long while, even after the muscles had recovered their contractile power sufficiently for the requirements of standing.

On the 25th of July the horse was bled to death.

AUTOPSY.—The subcutaneous vessels of the near limb were found greatly more developed and injected than in the off. A comparative examination between the muscles of one limb and those of the other disclosed no difference in form or colour, with the exception of the scalenus muscle, which exhibited partial discolouration of its fleshy fibres. The cellular tissue, also, about where the humeral artery divides, was firmer and more resisting.

THE LEFT BRACHIAL ARTERY, without the thorax, at the point where it turns round, presented an ovoid dilatation, in caliber double its natural dimensions. The parietes were reddened; and within it was a hard resisting clot, adherent to the coats of the artery, which had become augmented in thickness. This clot reached as far as the origin of the humeral artery. The vessel was not completely plugged by it: blood still circulated through it.

THE DORSO-SCAPULAR ARTERY had a clot in it only at the

part where it turns round the neck of the scapula, though its volume was half as much again as natural.

THE SUB-SCAPULAR ARTERY, at the place where it gives origin to the scapulo-humeral, is half as large again as natural. It contained a clot.

HUMERAL ARTERY, in its course along the humerus, uniformly increased in volume to the extent of about three inches, or more: the cellular tissue surrounding it assuming a yellow-red aspect, while it contributed much to the substance of its external coat.

OTHER ARTERIES.—*The pre-humeral, the grand muscular posterior artery, the ulnar artery, the posterior and anterior radial arteries,* are all partially or generally enlarged, and, in addition, present divers clots of blood here and there, or extending throughout.

THE VEINS were all sound. But there was a small clot at the origin of the plantar arteries.

The brain and nerves, and cerebro-spinal system altogether, were in their normal condition.

THE CHARACTERS OF THE CLOTS.—The clot within the brachial artery at its origin was inclosed between the cellular tunic and the fibrous (elastic) tunic. It was in appearance marbled red and yellow. Owing to some cause, violent or sudden in its operation, the internal and middle membranes of the brachial artery had given way. The cellular tunic alone had withstood the shock, as happens in the case of putting ligatures on arteries, owing to its elasticity; when the arterial blood, in its pulsations against it, succeeds by little and little in insulating, and, as it were, dissecting the fibrous tunic it lies upon, until it has worked a hollow in it in which is lodged a consistent clot. This is the sort of anormality to which Laennec gave the name of *dissecting aneurism*, of which, perhaps, this is the only example in veterinary medicine. The axillary portion of the brachial artery likewise contained a dissecting aneurism.

Remarks on the above Case.

By the EDITOR of the "RECUEIL."

THE case we have just translated is a fresh and remarkable example of *intermittent lameness*, caused by the obliteration of the principal arterial trunks of the limb. In connexion with similar cases, published in the "*Recueil*" in 1831, by M. Bouley, jun., and in 1846, by M. Goubaux, the present may serve to

throw light upon the diagnostic of lamenesses so frequently inevitably obscure, and to mark such, without mistake, as arise from obliteration of arteries. Although this certainty of diagnostic leads to no other result than the conviction of our inability to afford relief, nevertheless, it is something, both as regards science and practice, to be able to speak in positive language of the nature of the disease, as well as to predict its fatal termination. The estimation in which such a practitioner is held cannot fail to become increased, shewing himself, as he does, to be the most competent person to do his employers service, since he saves them, on the one hand, from running into unnecessary expense, or is able, on the other hand, if required, to give the best advice for the preservation of an animal valuable in other respects than as a mere moving machine.

The symptoms to be considered as really pathognomonic in such a case of lameness are, *intermission of muscular inertia simulating paralysis, and notable diminution of the temperature of the lame limb.*

We are, therefore, of opinion that, at the present day, we are justified in considering, as a newly acquired truth in practice, that lameness characterized by a sort of intermittent paralysis of the muscles of the limb, and by simultaneous lowering of temperature, ought to be ascribed to an obliteration of the principal arterial vessels. The symptoms are so perfectly in accordance with the nature of the lesion, while, on the other hand, the lesion so fatally brings on the symptoms, that, in the place of facts, sufficiently numerous at the present day, the physiological induction, it appears to me, authorises the absolute conclusion we have just drawn.

* * * The case our French brethren have presented us with seems as novel to us as to them. Should any of our readers have, in the course of practice, met with any parallel to it, we hope we shall hear from them on the subject. Meanwhile, we will look into the No. of the "*Recueil*" referred to by M. Bouley for any additional facts which may tend to elucidate so interesting a point in pathology.—ED. VET.

FOREIGN VETERINARY OBITUARY.

FEW months have elapsed since we lamented the death of M. Barthélemy, senior, and now we have to proclaim another vacancy in the ranks of our French professional brethren in the name of one who has, at least upon paper, been long and well known among ourselves as a professor and author of the very

first order. We mean the veteran, M. GIRARD, who in January last was taken from us at the advanced age of 82 years.

M. Girard was formerly director of the Alfort School (to which he was the second successor of the renowned Bourgelat); and before his death, member of several learned societies, Chevalier of the Legion of Honour, &c. &c.

Some of our readers will probably remember the name of young Girard, son of the above distinguished Professor, whose work, on the teeth and age of the horse, was translated by Mr. Ganley, afterwards veterinary surgeon of the 11th Dragoons. With his son it was—cut off in early life, with every promise of one day rivalling his father—who under the Professor, established the *Recueil de Médecine Vétérinaire*, in 1826—two years antecedent to the appearance of THE VETERINARIAN.

Veterinary science has lost also another votary in M. Brogniez, who was Professor of the veterinary school at Corgham-les-Bruxelles. M. Brogniez was noted for his fertility of invention. He produced a number of instruments, most of them highly ingenious, among the most successful of which we may mention the tooth-rasp (*rabot odontriteur*), and his artificial foetus, so constructed as to be capable of being made to imitate the movements in parturition. We are promised an account of the different inventions of this clever mechanic in the next *Recueil*.

Recueil de Méd. Vét. February 1852.

Home Department.

THE DISEASES OF FARM HORSES ARISING FROM MISMANAGEMENT.

By V. S.

THIS is an important subject for the farmer's consideration, for he frequently considers many of the losses he sustains in this respect as the consequence of natural causes over which there is no control, and which no knowledge can avert. I hope to be able, in the course of this essay, to convince persons entertaining such fated opinions, that thousands of horses annually perish from a neglect of the conditions required for their preservation in health and freedom from disease.

With respect to food, I shall prove that many dangerous diseases arise from improper regulations of diet; as to quantity and quality, and the times at which it should be given—the

rules for which are simple and easy enough, but are continually transgressed through carelessness, or absurd prejudices.

Also that excess of labour forms a prolific source of disease in both young and old horses, and the vigorous health of young ones in particular is often wasted and destroyed from premature work, which, if economically managed for a year or two at most, might have preserved them in health and activity nearly to the full term of the allotted periods of their lives, instead of being dissipated in the first six or seven years of their existence.

And, lastly, that insufficient shelter and exposure to wet and cold are very common causes of disease, the effects of which are certain to manifest themselves in some way or other on horses that have been exposed to their influences, though oftentimes obscurely, and at a remote period. Our patients, far more than those of the human practitioner, are exposed to the influence of physical agents. One-half of the diseases of the horse and of cattle are referrible to temperature—many more to the changes effected in the atmospheric air by respiration, perspiration, and the various excretions, and the greater part of the residue may be traced to some unknown, and not sufficiently appreciated, atmospheric agency.

These are the chief points to be considered in this essay ; *food, labour, and temperature*, agents that are continually acting on the condition and general health of farm horses, either for good or for ill : if properly directed, they produce in them strength and capability of enduring labour ; but misdirected, their beneficial influences are changed from ministers of good to insidious or manifest sources of disease.

Insufficient or improper Food.

The purpose of food being the supply of materials which, when prepared by the process of digestion, shall repair the waste of the body, and maintain its growth and temperature, it must be evident, if this process is interfered with by the supply of articles of food such as will neither suit the powers of digestion or the wants of the system, that disturbances of some kind are likely to occur in any or all of the steps of the nutritive process, from the reception of the food into the stomach, to its appropriation and assimilation to the living textures. Accordingly we will direct our attention, first to the diseases of the stomach, which are easily traced to errors in diet, and interference with the digestive economy.

Diseases of the Stomach.—The stomach of the horse is comparatively small, holding about three gallons, whilst the ox possesses four stomachs, the first of which is larger than that of

the horse. This affords us a very important lesson at the commencement, that whilst the ox is so constructed as to consume large quantities of fodder at a meal, the horse, on the contrary, requires a more moderate quantity of a more nutritive nature, and to be fed oftener. To insure perfect digestion of the food, it requires to be first masticated with the teeth, and moistened with the salivary secretion in the mouth, which flows during this process in considerable quantities. According to Professor Spooner, the saliva flows during the time of feeding at the rate of two gallons per hour.* In the stomach, the food is further acted on in healthy digestion by the gastric juice, when it is converted into a soft pulpy mass called *chyme*, which passes as fast as it is formed into the intestinal canal. This part of the digestive process is very active in the horse; but it is sometimes interfered with, in consequence of devouring his food in too rapid a manner, without being either properly masticated, or mixed with the salivary secretion. This circumstance occasionally happens when the animal has been fatigued with hard work, and restricted from food for an improper length of time. In these cases *indigestion* takes place, which is a very serious affair, for the life of the animal is in considerable danger. *Fermentation* of the food and disengagement of the gases quickly ensue, and as the horse can neither belch up the air, nor vomit up the food, distention of the coats of the stomach takes place, occasioning violent agonizing pains, spasm, and all the symptoms recognised in aggravated cases of colic, for which it is frequently mistaken. This alarming disease is recognised by veterinary surgeons as *acute indigestion*.

It should be understood that digestion, although always in part chemical, is controlled by a superior superintending influence—the vital power; and no sooner does this power fail, or the chemical agencies or decompositions become too strong for it, than we have fermentation of the food, and precisely the same changes in the stomach as would occur out of it, when kept in a moist state at similar temperature. The fermentable nature of the food, and the peculiar construction of the horse's stomach, which prevents vomition, and his occasional detention from food and water during the long hours of labour, are circumstances which account for the great liability of farm horses to this disease.

The stomach of the horse is liable to another dangerous disease, arising from a false and injurious system of dieting.

* "In injuries where the salivary or parotid ducts had been opened, he," (Mr. Spooner), "had observed no flow of saliva took place, except when the animal was feeding; and it then discharged itself in a stream, by weight, measure, and time, at the rate of two gallons per hour."—*Proceedings Veterinary Medical Association*, 1837-8, p. 102.

The Staggers.—This disorder is slow in its progress, and seldom observed until firmly established. The symptoms are easily recognised by the drooping head, impaired vision, staggering gait, and sometimes violent and dangerous struggling of the afflicted animal. It is more frequently observed in farm stables during the busy tillage season than at any other time; in consequence of long continued labour, and little rest or food, except at night, when they are allowed to gorge their stomachs to repletion.

The late Professor Coleman used to relate a circumstance in his lectures, connected with this disease, which throws considerable light on its origin. The artillery horses stationed in London during the winter of 1817, suffered very considerably from stomach staggers, so much so, that it was considered to be endemical, and of an infectious character. Mr. Coleman, with his usual penetration, soon discovered the cause. He found that, from some new regulations about that time, the stablemen were not allowed any candles, and during the winter the horses were bedded up at five o'clock in the evening, and not fed again until eight o'clock on the following morning, when they consumed their breakfasts voraciously, gorging their stomachs, not to the degree likely to produce acute indigestion, but sufficiently distending them as to oppress the bloodvessels and the circulation through them. This practice continued, day after day, caused a *specific* inflammation of the stomach, an inflammation of a peculiar character, differing from gastritis or inflammation of the part. Mr. Coleman regarded the symptoms produced as resulting from the sympathetic connexion between the stomach and the brain, united to the effects that would arise from the daily distention throwing a vast quantity of blood on the brain. He *simply obtained an order for candles for the use of the stablemen, which enabled the horses to be fed at a later hour in the evening, and an earlier one in the morning, when the disease disappeared.*

A common error still prevails in many districts, that staggers is a contagious disease; but should the horses on a farm be attacked occasionally with slight fits of this kind, the farmer may rest assured that there is mismanagement somewhere in the feeding department.

We will now direct our attention to another common and dangerous class of ailments, arising from errors in feeding, and interference with the digestive economy.

Diseases of the Intestinal Canal.—The changes which take place in the gastric process of digestion have been noticed; but others are carried on in the intestines, where the chymous mass,

becoming mixed with the hepatic and pancreatic secretions, is converted into *chyle*, which is passed onwards by the muscular creeping action of the small intestines into the larger ones; and during this passage it is acted on by the agency of a set of vessels termed *lacteals*, whose orifices are abundantly spread over their villous surfaces, for the purpose of absorbing the nutritious parts. The same absorption takes place in the large intestines, only the chylous mass is retained in the *colon* for a longer period, by which its nutritious parts are finally separated and absorbed, and the excrementitious portions are afterwards expelled per rectum.

Now, in this process we observe that the united pancreatic and biliary fluids poured on the chyme, penetrate it, render it fluid, animalize it, separate the nutritious from the excrementitious, which is finally carried into the circulation.

It sometimes happens, however, that serious disturbances occur during this process. Horses are frequently fed with imperfect or indigestible articles of food, which, accumulating either in the small or large intestines, prove sources of irritation and disease. It is a very common case to find the *colon*, or big gut, as it is frequently called, packed with indigestible fibrous matters, which, on being evacuated by the use of medicines and injections, prove to be unmasticated and unchymified chaff of straw and husks of oats: the refuse of the barn, consisting of the husks of various grain, half rotted frosted clover, weather beaten dusty hay, or hay mouldy and rusty and covered with parasitical growths, musty pea haulm, and sapless fibrous turnips; these are articles that frequently occasion visceral complaints.

But amongst all these, the use of chaffed straw, sometimes of wheat, but more frequently of barley, proves the most common cause, and consequently should never be given alone, but mixed with hay in the proportion of one-third of the former to two of the latter. Some horses are in the habit of bolting their corn, which passes into the intestines intact. This is also a cause of indigestion, and its consequences; and hence the bruising of oats is not only an economical practice, but lessens a tendency to visceral disease.

In *colic cases of this kind* we do not find the rolling, agonising pain of spasmodic colic; but the animal lies and rises at short intervals, frequently points his muzzle round to the flank, the seat of pain, and when standing, either paws the litter with one of its fore feet, or strikes at its belly with its hinder ones. The pain, in cases of this kind, arises from the indigested food impacted in the colon; and the symptoms are

seldom entirely removed, until the greater part becomes evacuated. This disease is never to be reckoned void of danger, as it may unexpectedly terminate in inflammation and gangrene.

Colic is very commonly attributed to horses from drinking cold spring water when in a heated state. This is the *spasmodic colic* of veterinary authors and others. That spasmodic constriction of the small intestines is occasionally caused in this way, producing very intense and acute pain, I do not question; but in a general way, the colic pains are caused by the washing of imperfectly digested food from the stomach into the intestinal canal, before it has undergone chymification, rather than to any direct influence of the cold water on the muscular coat of the intestines. I believe that food of the best description, when washed into the intestines in this manner, is certain to cause pain and spasm from the fermentation and disengagement of gases, which invariably takes place on vegetable matter being exposed to heat and moisture, which, if it had been properly acted on by the antiseptic properties of the gastric juice, would have been incapable of being fermented.

It should be understood, that a horse will drink at one time a much greater quantity than his stomach can contain, supposing it to be entirely empty; but even when he drinks a less quantity, it remains not in the stomach, but passes on to the large intestines, and is retained in the cæcum, commonly called the water gut. Hence the danger to be apprehended at all times from allowing horses to drink a quantity of water soon after feeding, or before the food is sufficiently digested in the stomach, from the chance of portions of it being washed into the intestinal canal, when the consequences are, as I before stated, fermentation and disengagement of gases, causing pain and spasms, which, when it occurs in the small intestines, produces *spasmodic colic*, or it may occur in the large intestines, causing *flatulent colic*. In the former disease we cannot detect the swelling; but it is evident enough when the colon is the seat of the disease, by the enlargement of the belly on the off flank.

Veterinary surgeons are seldom called on to attend cases of this kind in farm stables at the onset. The nostrums used by the farmers are stimulants of various kinds, such as turpentine, peppermint, gin, pepper, and ginger. Simple cases of colic can generally be successfully treated on the stimulating principle; and many cases admit of this being carried to an extreme extent with comparative safety; but in other cases, we have constipation to deal with, which bids defiance for a time to our remedies; and then, if strong stimulants have been previously given, inflammation is quickly set up, and the disease ter-

minates in gangrene, which, if otherwise treated at the commencement, might have had a successful result.

These visceral diseases are frequently confounded with that of *enteritis*, or inflammation of the bowels, and by farmers always treated alike. This error invariably proves fatal to the patient, for the stimulating drenches, which might prove beneficial in one, is certain to cause death in the other.

It is desirable that the farmer should be able to make a distinction between simple colic and *enteritis*, which may generally be done by attending to the symptoms of each. In cases of colic, there is very little acceleration of pulse, except during the paroxysms of pain. The extremities are also warm, and there are intervals of cessation from pain, which is much abated by a discharge of wind or fæces. But in inflammation of the bowels, the pain remains equable and fixed; the pulse is rapid, hard, and thread-like, sometimes almost indistinct; the breathing is considerably accelerated; the extremities are icy cold; and obstinate costiveness prevails from the commencement. Enteritis is, fortunately, not a very common disease in farm stables; but when it does occur, it may generally be traced to errors in diet.

With respect to visceral diseases generally, it would appear, from their being more prevalent during the latter part of autumn and commencement of winter, that the state of the atmosphere has some predisposing influence. At this period of the year the atmosphere is frequently moist and relaxing; and under its influence the muscles, and with them the heart and arteries, lose power and tone: the textures also become relaxed, and the perspiration which accumulates in the long close hair of farm horses during work perpetuating the relaxation. In this state, the stomach and intestines also participate in the loss of tone; and hence disease perhaps so often occurs at this season on very slight errors of diet.

There are a few simple rules, founded on the experience of some of our best practical farmers, on the management of horses that may be introduced here with advantage.

(1.) The earlier the horses are watered and fed in the morning, and the longer the intervals between that time and yoking, the greater chance is there of the food undergoing perfect digestion. Ordinary farm-work is not likely to interfere with the digestive process; but active exercise or severe cart-work are likely to do so, and should always be avoided soon after a meal.

(2.) The mid-day meal and *full one hour's rest* should never be interfered with. The practice of accomplishing a day's work in one yoking, by keeping the horses at work for eight

or nine hours on a stretch, is highly injurious, being certain to cause remote, if not immediate disease.

(3). On the return of the team to the stable in the evening, it is wise at all times to divide the night's allowance of food, giving just as much at first as will remove the sensation of hunger, and in an hour or so afterwards the remainder may be given with impunity.

It has been shewn in cases where the digestive organs fail in appropriating nourishment from various improper articles of food, that they become distended, irritated, and otherwise disordered. Sometimes imperfect food is digested, and yet produces disease, from the imperfect blood sent thereby into the circulation.

Diabetes, or *profuse staling*, is caused in this manner—from horses eating mow-burnt hay, heated oats, and decaying vegetable matters of various kinds. In this disease saccharine matters are supposed to be formed in the intestines, which are taken up by the lacteals, passed into the blood, and again eliminated by the kidneys into the urine.

[To be continued.]

MENSTRUATION IN MARES.

[Written for the American Veterinary Journal, by C. H. Cleaveland, M.D.
Waterbury, Vermont.]

DR. DADD: Many thanks for the number of the American Veterinary Journal you so kindly sent me. It far exceeds in mechanical and intellectual excellence the idea I had formed of it; and, in my opinion, it cannot fail of being highly serviceable to that noble companion of man, the horse, as well as to the owner who is so fortunate and so wise as to subscribe for and read it.

I do not wish to bore you at this time with compliments, however well deserved, but to ask your and your readers' attention to one fact in the physiology of the horse, or rather the mare, which seems not to be well understood by many who would almost consider themselves insulted if it were hinted to them that they did not "know all about a horse."

Probably all know that all mares of the proper age, and at certain seasons of the year, *menstruate*, or, in other words, have uneasy turns, get "*foolish*," as they say in Illinois; and that, at such times, they seem unwilling to perform their usual task, either as travellers, or as draught horses; that they seem fretful and often ill tempered, vicious, spiteful, and frequently get a most thorough whipping, because their masters also get "foolish."

Now, the simple fact is, that the mare knows more than her master in regard to her then condition, and she is trying to drive into his *foolish* noddle that, on such days, she should be left quiet, and be subject to no labour beyond the most gentle exercise.

If the reason why this course should be pursued, in preference to the hard work and the whipping which *your* mare has had bestowed upon her at such times, is not now plain and satisfactory to you, most sapient reader, just inquire of any old matron within the circle of your acquaintance, and she will tell you that I am correct, but perhaps "without a why or wherefore."

The reproductive organs, in all animals, are intimately connected with the nervous system, and, of course, exert a vast influence over not only the nerves, but also the entire body, mind, and disposition; and when those organs are deranged or diseased, the entire animal economy must suffer, and be rendered in a greater or less degree unfitted to perform its usual labours. In the female, these organs exercise a still more powerful influence upon the other parts of the system than in the male; and as they are liable to *periodical* derangements or excitements, it becomes obviously necessary to be strictly cautious not to tax the animal's powers of endurance at those periods.

Mares that have been ridden under the saddle, or driven in harness, during their periods of heat, and have performed no more than their usual amount of labour, are frequently discovered to be covered with perspiration across the loins, while all other parts of the surface are cool and dry; and the hostlers will say that they have been unable to rub these spots dry, even after the lapse of many hours; and the next day the mare is observed to drag her hind legs after her, almost as though her back were broken. Indeed, her back is lame, weak, and painful. She urinates with difficulty, and there is evident inflammation of the kidneys, the ovaries, and the uterus.

From slight injuries of this class mares will readily recover; but if they are of too frequent repetition, or the injury be of too grave a character, the chances are, that the animal will be unable ever after to perform well, and will soon become nervous, irritable, and weak, and will be passed from jockey to jockey until she dies—a martyr, not to her own "*foolishness*"—for her waywardness at those times are *wise* admonitions to her master—but to the folly of those who *will not* learn to understand nature, because "they know all about their horses," and do not wish to be instructed by any *book doctor*.

ON ALOINE, THE CRYSTALLINE CATHARTIC PRINCIPLE OF BARBADOES ALOES.

By JOHN STENHOUSE, LL.D., F.R.S.L. & E.

ABOUT two months ago, I received from my friend, Mr. Thomas Smith, apothecary, Edinburgh, a quantity of brownish-yellow crystalline substance which he had obtained from Barbadoes aloes. Mr. Smith's process consisted in pounding the previously dried aloes with a quantity of sand, so as to prevent its agglutinating, macerating the mass repeatedly with cold water, and then concentrating the liquors *in vacuo* to the consistence of a syrup. On remaining at rest in a cool place for two or three days, the concentrated extract became filled with a mass of small granular crystals of a brownish-yellow colour. This is the crude substance to which Mr. Smith has given the name of aloine, and which appears to constitute the cathartic principle of aloes. The brownish-yellow crystals obtained in this way are contaminated with a greenish-brown substance, which changes to brownish-black on exposure to the air, and still more rapidly when it is boiled. In order to purify the crystals of aloine, therefore, they must first be dried by pressure between folds of blotting-paper, and then repeatedly crystallized out of hot water till they have only a pale sulphur-yellow colour. The aqueous solutions of aloine must on no account be boiled, but simply heated to about 150° F., as at 212° F. aloine is rapidly oxidized and decomposed. By dissolving the purified crystals of aloine in hot spirits of wine, they are deposited, on the cooling of the solution, in small prismatic needles arranged in stars. When these crystals have a pale yellow colour, which does not change when they are dried in the air, they may be regarded as pure aloine.

Aloine is quite neutral to test-paper. Its taste is at first sweetish, but soon becomes intensely bitter. Aloine is not very soluble either in cold water or in cold spirits of wine; but if the water or the spirits of wine are even slightly warmed, the solubility of the aloine is exceedingly increased: the colour of these solutions is pale yellow. Aloine is also very readily dissolved by the carbonated and caustic fixed alkalies in the cold, forming a deep orange-yellow solution, which rapidly grows darker, owing to the oxidation which ensues. The effects of ammonia and its carbonate are precisely similar. When aloine is boiled either with alkalies or strong acids, it is rapidly changed into dark brown resins. A solution of bleaching powder likewise gives aloine a deep orange colour, which soon changes to dark brown. Aloine produces no precipitate in solu-

tions either of corrosive sublimate, nitrate of silver, or neutral acetate of lead. It also yields no precipitate with a dilute solution of subacetate of lead; but in a concentrated solution it throws down a deep yellow precipitate, which is pretty soluble in cold water, and is, therefore, difficult to wash. This precipitate is by no means very stable; and, when it is exposed even for a short time to the air, it becomes brown.

When powdered aloine is thrown, in small quantities at a time, into cold fuming nitric acid, it dissolves without evolving any nitrous fumes, and forms a brownish-red solution. On adding a large quantity of sulphuric acid, a yellow precipitate falls, which, when it is washed with water to remove all adhering acid, and then dried, explodes when it is heated: it plainly, therefore, contains combined nitric acid. I could not, however, succeed in obtaining this compound in a crystalline state, as, when it was dissolved in spirits, it appeared to be decomposed. When aloine is digested for some time with strong nitric acid, much nitrous gas is evolved, and it is converted into chrysamic acid, but without the formation of any nitropicric acid, as is always the case when crude aloes is subjected to a similar treatment. A quantity of aloine was boiled with a mixture of chlorate of potash and muriatic acid. The acid solution was evaporated to dryness, and digested with strong spirits of wine. The greater portion of the spirits was removed by distillation; and the remainder, when left to spontaneous evaporation, yielded a syrup which could not be made to crystallize. Not a trace of chloranil was produced.

When aloine is destructively distilled, it yields a volatile oil of a somewhat aromatic odour, and also a good deal of resinous matter. When aloine is heated on platinum foil, it melts, and then catches fire, burning with a bright yellow flame, and emitting much smoke. It leaves a somewhat difficultly combustible charcoal, which, when strongly heated, entirely disappears, not a trace of ashes being left.

A quantity of aloine dried *in vacuo* was analyzed with chromate of lead in the usual way.

I. 0.2615 grm. aloine gave 0.5695 carbonic acid and 0.14 water.

II. 0.2415 grm. aloine gave 0.5250 carbonic acid and 0.126 water.

Hydrated aloine.		Found numbers.		
Calculated numbers.		I.		II.
34 C.....	2550.0	59.47	59.39	59.24
19 H.....	237.5	5.54	5.97	5.79
15 O.....	1500.0	35.09	34.64	34.97
	<hr/> 4287.5	<hr/> 100.00	<hr/> 100.00	<hr/> 100.00

The formula derivable from these analyses is $C_{34}H_{19}O_{15}$, which, as we shall presently see, is $= C_{34}H_{18}O_{14} + HO$, or aloine with one equivalent of water.

The aloine which had been dried *in vacuo* was next heated in the water-bath for five or six hours, and was also subjected to analysis.

I. 0.251 grm. aloine dried at 212° F. gave 0.550 carbonic acid and 0.128 water.

II. 0.2535 grm. aloine dried at 212° F. gave 0.564 carbonic acid and 0.129 water.

III. 0.234 grm. aloine dried at 212° F. gave 0.521 carbonic acid and 0.114 water.

	Calculated numbers.		I.	II.	III.
34 C.....	2550	61.07	60.51	60.67	60.72
18 H.....	225	5.39	5.66	5.65	5.42
14 O.....	1400	33.54	33.83	33.68	33.86
	<hr/> 4175	<hr/> 100.00	<hr/> 100.00	<hr/> 100.00	<hr/> 100.00

The aloine employed in these analyses was prepared at three different times. These results give $C_{34}H_{18}O_{14}$ as the formula of anhydrous aloine, that dried *in vacuo* being a hydrate with one equivalent of water.

When the aloine was allowed to remain in the water-bath for more than six hours, it continued slowly to lose weight, apparently owing to its undergoing partial decomposition by the formation of a brownish resin. The loss of weight gradually continued for a week or more, but became very rapid when the aloine was heated to 302° F., when it melted, forming a dark brownish mass, which, when cooled, became as hard and brittle as colophonium: it still, however, contained a good deal of unaltered aloine, as I ascertained by crystallizing it out with hot spirits and analyzing it. Much of the aloine had been changed, most probably by oxidation, into a dark brown uncrystallizable resin.

Brom-aloine.—When an excess of bromine is poured into a cold aqueous solution of aloine, a bright yellow precipitate is immediately produced, the amount of which increases on standing, while at the same time the supernatant liquid becomes very acid from containing free hydrobromic acid. The precipitate, after it has been washed with cold water to remove adhering acid, is dissolved in hot spirits of wine; and on the cooling of the solution it is deposited in bright yellow needles radiating from centres, which attach themselves to the bottom and sides of the containing vessel.

The crystals of brom-aloine are considerably broader than those of aloine, and have a richer yellow colour and a higher lustre. Brom-aloine is quite neutral to test-paper, and is not

so soluble in either cold water or cold spirits of wine as aloine, but dissolves very readily in hot spirits of wine.

I. 0.421 grm. substance dried *in vacuo* gave 0.547 carbonic acid and 0.103 water.

0.856 grm. gave 0.848 bromide of silver = 42.16 Br.

II. 0.300 grm. substance gave 0.391 carbonic acid and 0.078 water.

0.661 grm. substance gave 0.649 bromide of silver = 0.2762 Br. = 41.78 per cent.

Calculated numbers.			I.	II.
34 C	2550.00	35.73	35.43	35.53
15 H.....	187.50	2.62	2.71	2.86
14 O.....	1400.00	19.63	19.70	19.83
3 Br.	2998.89	42.02	42.16	41.78
	<hr/>	<hr/>	<hr/>	<hr/>
	7136.39	100.00	100.00	100.00

The brom-aloine employed in these analyses was prepared at two different times. It is plain, therefore from these results, that this bromine compound is aloine, $C_{34}H_{18}O_{14}$, in which 3 equivs. of hydrogen are replaced by 3 equivs. of bromine. The formula of brom-aloine, therefore, is $C_{34}H_{15}O_{14}Br_3$.

When a stream of chlorine gas was sent for a considerable time through a cold aqueous solution of aloine, a deep yellow precipitate was produced. It contained a great deal of combined chlorine; but, as it could not be made to crystallize, it was not subjected to analysis. In the present instance, and in those of several other feeble organic principles, such as orcine, chlorine appears to act somewhat too strongly, so that the constitution of the substance is destroyed, and merely uncrystallizable resins are produced. Bromine, on the other hand, is much more gentle in its operations, and usually simply replaces a moderate amount of the hydrogen in the substance, so that, as in the case of orcine and aloine, crystalline compounds are produced.

It has long been known to medical practitioners, that the aqueous extract of aloes is by far the most active preparation of that drug. The reason of this is now very plain, as the concentrated extract of aloes obtained by exhausting aloes with cold water consists chiefly of aloine, by much the larger portion of the resin being left undissolved. Mr. Smith informs me, that, from a series of pretty extensive trials, from two to four grains of aloine have been found more effective than from ten to fifteen grains of ordinary aloes. Aloine is, I should think, therefore likely ere long to supersede, at least to a considerable extent, the administration of crude aloes.

I endeavoured to obtain aloine by operating considerable quantities of Barbadoes, Cape, and Socotrine aloes. These were macerated in cold water, and the aqueous solutions obtained were concentrated to the state of thin extracts on the

water-bath. I was quite unsuccessful in every instance. The impurities contained in the extracts in these different kinds of aloes appear, when in contact with the oxygen of the air, to act upon the aloine so as effectually to prevent it from crystallizing. Aloine can only, therefore, be obtained in a crystalline state by concentrating the cold aqueous solution of aloes *in vacuo*; though, after the aloine has once been crystallized, and it is freed from the presence of those impurities which appear to act so injuriously upon it, the aloine may be quite readily crystallized out of its aqueous solutions in the open air.

Though aloine has as yet only been obtained from Barbadoes aloes, I have scarcely any doubt that it also exists both in Cape and Socotrine aloes. The amount of aloine in Cape aloes is, however, in all probability, much smaller than in either of the other two species; for *Cape aloes is well known to be a much feebler cathartic*, and to contain a mass of impurities. In corroboration of this opinion, I would refer to the fact already mentioned in a previous part of this paper, viz. that, when aloine is digested with nitric acid, it is converted into Dr. Schunck's chrysammic acid. Now it has been satisfactorily ascertained that all the three species of aloes yield chrysammic acid, of which in fact they are the only known sources. Cape aloes, as might have been expected, yields by far the smallest amount of chrysammic acid, together with much oxalic and some nitropicric acids. There appears, therefore, great reason to believe that *all the three kinds of aloes contain aloine*.

Since the above was written, I have learned from Mr. Smith that he has not succeeded in obtaining crystallized aloine from either Cape or Socotrine aloes. Mr. Smith does not doubt that both of these species of aloes also contain aloine, though most probably contaminated with so much resin, or some other substances, as prevents it from crystallizing. What tends to confirm Mr. Smith in this opinion is the observation he has made, that, when the crude crystals of aloine are allowed to remain in contact with the mother-liquor of the Barbadoes aloes, they disappear and become uncrystallizable. I have also observed a similar occurrence in the mother-liquors of tolerably pure aloine. These become always darker and darker; so that if we continue to dissolve new quantities of aloine in them, at length scarcely any of it crystallizes out, and the whole becomes changed into a dark-coloured magma.

In the year 1846, M. E. Robiquet published an account of an examination he had made of Socotrine aloes. By treating the concentrated aqueous solution of this species of aloes with basic acetate of lead, he obtained a brownish yellow precipitate, which was collected on a filter and washed with hot water. On decomposing this lead compound with sulphuretted hydrogen and

evaporating the solution to dryness, he obtained an almost colourless varnish, consisting of a scaly mass, which was not in the least degree crystalline. M. Robiquet subjected his substance, which he called aloetine, to analysis, and obtained the following result:—

8	C	=	27.7	per cent.
14	H	=	10.8	"
10	O	=	6.15	"
<hr/>				
			100.0	

It is plain, therefore, that M. E. Robiquet's aloetine, if it really is a definite organic principle, which I very much question, is certainly a very different substance from the aloine which has formed the subject of the present notice.

Pharmaceutical Journal, April 1852.

THE VETERINARIAN, MAY 1, 1852.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

OUR correspondents have visited us this month in rather formidable number. Among them will be found three army veterinary surgeons; a circumstance we would fain hail as a presage of better acquaintance than has been wont to exist between us and our military brethren. We feel quite sure that they are as desirous as we are that our common profession should not suffer for want of any support from its members; and we can vouch, we think, for professional zeal being no less alive in their breasts than in those of veterinary civilians. Veterinary surgeons serving in the army do not enjoy the same ample range for observation as is spread out before most private practitioners. By way of compensation, however, they have more leisure time on their hands to think and make the most of what they do happen to meet with; and we are of opinion that, though the cases for observation be few, yet providing they be faithfully and minutely recorded, and afterwards thoroughly digested in the mind of the practitioner, they will be found to afford more material for improvement and discovery than will be derived from numbers passing crowdingly before the observation, and necessarily fleetingly through the mind: as days and months roll on, and fresh images or cases present themselves, so weak and faint do former impressions gradually become, that in after years they will be found, in any substantial or useful form, to elude recollection altogether.

The three milito-veterinary communications we are this month favoured with, are on subjects of the first import to us—*castration* and *shoeing*. Mr. Hurford, who has, as veterinary surgeon to the King's Hussars, spent some dozen years in India

—a country where the custom of using entire horses brings veterinary practitioners to be better acquainted with hernia and castration than our own custom of early emasculation admits of our being—has imparted some practical remarks of a character we cannot fail to profit by; while the results of thirty years' practice in the art of shoeing, coming from two of the oldest and most experienced veterinary surgeons in the queen's service, promise too rare and valuable information to be suffered in our hands to pass without seizing the opportunity of connecting therewith a few observations of our own.

Considering how recently we have had occasion to examine into that assumed and generally admitted property of the hoof, *elasticity*, upon the nature and extent of which some of the knottiest points in shoeing depend for their solution, we are, in a measure, prepared for the *coup d'œil* we are about to take of shoeing in general. The remark we shall set out with may surprise some of our readers; nevertheless, we boldly and broadly assert, that shoeing, as practised at the present day at our forges, both in town and country, with hardly an exception, is to our mind in its application faulty. The shoe we have for many years been in the habit of using is the very reverse of the shoe in public or common use. Turn the ordinary fore-shoe upside down, make the foot-surface the ground-surface, and *vice versâ*, and it becomes, with one or two minor differences, the shoe we recommend and adopt. The advantages it possesses in our eyes over the shoe in general use, are—1st, That it bears the closest resemblance, in being *dished*, to the concave form of the sole and the tread of the natural hoof—to the body, in fact, it is designed to protect. 2dly, In consequence of the interspace between the sole and the shoe being nothing like what is left in ordinary shoeing, suction from the ground is in that degree diminished, whereby two-thirds, or even less, of the number of nails ordinarily employed, suffice for retaining the shoe on the foot. 3dly, That from the extended surface of bearing it has against the wall of the hoof, and part of the sole as well, it becomes an easier shoe for the horse to wear; while the concavity which the shoe presents inferiorly, corresponding to the concavity of the sole, is calculated to embrace or grasp such convex irregularities as roads in general consist of, and thus renders the foot a great deal less likely to slip—from its becoming a sort of *safety shoe*—than with the shoe in common use. Such is the shaped shoe used by Mr. Hallen and Mr. Charles Percivall, besides some other veterinarians we could name; and such, in our opinion, is the shoe eminently adapted, chiefly for the reasons we have given, for all ordinary purposes.

But it will, probably, be objected to this—which usually

goes by the name of the *concave shoe*—that it is not calculated for all kinds of feet. That every horse who enters a forge has a foot which will bear, all at once, the transfer of the concave for the ordinary shoe, we do not mean to assert; but that every horse who has not a pumice foot, or a foot so flat that it approaches to pumice, can, if not immediately, in the course of no very long time, by proper manipulation of his hoof on the part of the farrier, be brought to wear one, is to us undeniable. The real truth is, that the farrier who adopts the concave as his general shoe, cannot carry on his business without some—perhaps at times a good deal of—extra trouble; since he will in this case have to adapt *the shoe to the foot*: not having a shoe at his elbow which cannot fail to answer every kind and description of foot in his forge; the latter being, in his estimation, on this very account, incomparably the best shoe for ordinary use.

Again, it may likewise be said, that such election or alteration of shoe for this or that foot may answer all very well for regiments of cavalry, or studs, or establishments of horses wherein time and opportunity serve to enable farriers employed in them to take such extra pains; but that in private or general practice the case is altogether altered. We are ready to admit that a farrier so restricted would not be able to shoe so many horses a day as he can under the present system; but this, we submit, ought not to operate against the introduction of a practice possessing such advantages over the old one as we have endeavoured to point out. It is not the *number* of horses shod *per diem* that ought to weigh with us as an argument for persisting in any one plan of shoeing; but the *plan* or *principle* itself on which such shoeing is performed.

Another very important improvement on shoeing as ordinarily practised—one which first met our eye some few years ago, and one with which, after considerable trial of it, we are much pleased—is, instead of paring out the sole with a drawing-knife, after the usual fashion, simply to remove from it such superficial flakes or layers of horn as have become under-run with dirt, and are already in a state of exfoliation and separation: leaving entire, as a covering to the living sole, a semi-dead layer of horn, which serves, like a leathern sole, as a defence to it against contusions from stones, &c. as well as a preservative against the evaporation of its moisture or “juices,” and consequently against its becoming hard and inelastic and brittle. For the purpose of such superficial paring—if *paring* it can be called—as is here recommended, the toe-knife, with a little assistance from the hammer, suffices: a drawing knife, under such circumstances, being rather an objectionable aid in the smith’s hands, simply for the reason of his being apt to be induced to *do too much with it*.

The above constitutes an outline of the shoe, and of the mode of getting rid of superfluous sole, which we—and others as well as ourselves—have for some years practised with a satisfaction and advantage that warrants a recommendation of the same practice to the attention of veterinarians and farriers in general. In saying so much, we are aware that any innovation on, or deviation from, the general routine of forge practice is certain to be met by objection and opposition, and that this we must be prepared to encounter: at the same time, we feel there are those in the profession who, from having given the plan of shoeing here advocated a fair and full trial, can with us speak in equal terms of laudation of it.

EDINBURGH VETERINARY COLLEGE.

ON the 6th April last, the students of the Edinburgh Veterinary College presented Mr. Barlow, V.S., Lecturer on Anatomy and Physiology, with a very handsome silver Coffee Pot, as a memorial of their gratitude and respect.

PROCEEDINGS OF THE COUNCIL OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

QUARTERLY MEETING, APRIL 7th, 1852.

Present — Professors SPOONER, SIMONDS, and MORTON; Messrs. BRABY, CHERRY, A. CHERRY, ERNES, HENDERSON, PEECH, STOCKLEY, TURNER, WITHERS; and the SECRETARY.

Professor SPOONER in the Chair.

The minutes of the previous meeting were read and confirmed.

The Secretary stated, that copies of the new Register had (in accordance with the directions of the President) been forwarded to the Horse Guards, the Board of Ordnance, the India House, the College of Physicians, the College of Surgeons, London, the College of Surgeons, Edinburgh, the Royal Agricultural Society, the Highland and Agricultural Society, the Veterinary College, the Editors of the *Lancet* and *Veterinarian*, Professors Sewell, Spooner, Morton, and Dick, and the Principal Veterinary Surgeon; from most of whom answers had been received, and copies had also been sent to all the cavalry regiments.

Mr. A. Cherry moved, and *Mr. Ernes* seconded, "That Professors Simonds and Morton be appointed, with the Secretary, to form a Committee to draw up an abstract of the Proceedings of the Council for presentation at the annual meeting in May.

Mr. Braby moved, and *Mr. Ernes* seconded, "That Mr.

Hall and Mr. Reeve be appointed as auditors. Both these motions were carried unanimously.

Mr. King having tendered his resignation, it was moved by *Mr. Henderson*, and seconded by *Mr. A. Cherry*, that it be accepted.

In addition to the vacancies occasioned by the gentlemen who retired from the Council by rotation, the Secretary stated there were two others, one caused by the death of Mr. Godwin, and the other by the retirement of Mr. F. King.

The following gentlemen were proposed to be placed on the list to be laid before the General Meeting, in accordance with law 3 :—

Mr. ROBINSON	by	Mr. Gabriel
Mr. J. TURNER	—	Mr. A. Cherry
Mr. PRITCHARD	—	Mr. Turner
Mr. HENDERSON	—	Mr. Braby
Mr. PERCIVALL	—	Professor Spooner
Mr. PEECH	—	Professor Morton
Mr. WELLS (Norwich)	—	Professor Simonds
Mr. VARNELL	—	Professor Spooner
Mr. GOWING	—	Professor Morton
Mr. DUNSFORD	—	Mr. Braby
Mr. STOCKLEY	—	Mr. Henderson.

Professor Morton brought forward his motion for an alteration in the division of the Board of Examiners. He proposed that there should be three sections instead of four : one for the anatomy, physiology, and pathology of the horse (the pathological department having hitherto formed a distinct section); one for the anatomy, physiology, and pathology of cattle; and one for the chemistry and materia medica: each section to occupy twenty minutes instead of a quarter of an hour. *Materia Medica*, he said, had been much neglected, and he suggested that one or more veterinary surgeons should sit at the chemical table with a view to attend more particularly to this department. He proposed three veterinary surgeons and one medical man to the Horse Board; the same to the Cattle Board; and two medical men and two veterinary surgeons to the Chemical and *Materia Medica* Board.

Professor Simonds seconded the motion.

The Secretary approved of the amalgamation of the pathological with the anatomical and physiological department in the horse section; but moved as an amendment, that half an hour, instead of twenty minutes, be allowed to each division. There had never, he said, been a meeting of the Board at which complaints had not been made of the shortness of time allowed.

Mr. Braby seconded the amendment.

Professor Morton thought it would be unjust to keep the

student an hour and a half under examination, while the College of Surgeons required only an hour.

Mr. A. Cherry referred to the by-law, stating that the Board should be divided into four sections; and added, that a suspension of the notice for three months was necessary before such law could be repealed.

As it appeared that this notice had not been suspended the requisite time, Professor Morton said he would withdraw his motion, and consider the propriety of bringing it forward on a future occasion.

Professor Simonds asked if any thing could be done to limit the number of times a pupil might present himself for examination.

The Chairman said the question had often been discussed, and it had been decided that a by-law for such a limitation, however desirable it might be, would be illegal.

The Secretary thought that the object would be obtained by increasing the periods of rejection, for instance; let the first rejection be for six months, the second for twelve months, and the third for two years, and the Board had already the power so to do.

Mr. Ernes asked the Chairman if it was true that appointments had been made in her Majesty's service of non-certified members of the profession.

The Chairman referred the question, if such appointments had been made, to Mr. Cherry, the Principal Veterinary Surgeon. That gentleman declined to give any information on the subject, and a minute was made (on the motion of Mr. Turner, seconded by Mr. Gabriel) of his refusal to do so.

The proceedings then terminated.

SPECIAL MEETING, APRIL 21st.

Present—The PRESIDENT, Messrs. BRABY, CHERRY, A. CHERRY, ERNES, HENDERSON, STOCKLEY; Professors SIMONDS and MORTON; and the SECRETARY.

The PRESIDENT in the Chair.

The minutes of the previous meeting were read and confirmed.

The Secretary, on the part of the Committee, then read an abstract of the proceedings of the Council, and the Treasurer's balance-sheet for the past year, for presentation at the Annual Meeting.

On the motion of *Mr. A. Cherry*, seconded by *Mr. Ernes*, the abstract and balance sheet were unanimously adopted.

The Secretary stated that the following members of the Council retired this year by rotation:—Messrs. Robinson, Turner, Henderson, Percivall, Peech, and Pritchard; besides which there were two other vacancies, one occasioned by death, and the other by resignation, in the Council.

Mr. A. Cherry brought forward a motion for the Examiners to take into consideration the advisability of amalgamating their sections, and to report thereon to the Council. He said it arose out of a motion which was brought forward at the last meeting by Professor Morton with the same object, but which was withdrawn, owing to an informality. That motion involved the abrogation of the present by-law relating to the divisions of the Board of Examiners; but his (*Mr. Cherry's*) proposal simply referred the question to the Examiners for them to test the alteration, and report the result to the Council, who would then be in a position to repeal or alter the by-law.

Mr. Henderson seconded the motion.

Professor Morton deprecated any extension of the time allowed for examination, as being harsh towards the pupil and unfair towards the examiner. If the Board was divided into three sections, according to his proposal at the last meeting, he thought twenty minutes for each section would be ample. In answer to a question from the Secretary, Professor Morton said that half an hour was not too long for the examination of a pupil in the anatomy, physiology, and the pathology of the horse; but that he thought it too long for the other sections.

Professor Simonds thought that the Council should instruct the Examiners as to the plan they ought to adopt, without referring the subject to them and requiring them to report upon it. He then suggested that the Board should be divided thus:—one division for the anatomy and physiology of the horse and all domesticated animals; another division for the pathology of the horse and all domesticated animals; and the third for chemistry and materia medica; allowing twenty minutes to each table. This, he said, would obviate all difficulties as to the extension of time.

The Secretary approved of the suggestion.

Professor Morton said he should be glad to withdraw his own proposal in favour of that brought forward by Professor Simonds, which he thought would tend greatly to simplify the arrangements.

Mr. Stockley and *Mr. Braby* supported *Mr. Cherry's* motion, which, on being put to the meeting, was unanimously adopted.

The President named Messrs. Henderson and A. Cherry, with the Secretary, as the Committee for supervision of the Reports of this and the previous meeting.

The proceedings then terminated.

A. HENDERSON
A. CHERRY
E. N. GABRIEL.

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ANNUAL GENERAL MEETING OF THE ROYAL
COLLEGE OF VETERINARY SURGEONS.

[From our own Reporter].

THE Ninth Annual Meeting of the Members of the College was held on Monday afternoon, May 3d, at the Freemasons' Tavern; W. Robinson, Esq. (President) in the Chair. There were also present Messrs. J. Hall, F. C. Cherry, W. Cooper, R. Pritchard, W. Wallace, C. Spooner (Professor), W. Robinson, E. N. Gabriel, A. Henderson, A. Cherry, J. Moon, C. Dickens, W. Burley, B. Cartledge, W. J. T. Morton (Professor), J. Broad, W. Ernes, J. T. Lee, S. H. Withers, A. B. Henderson, W. F. Stanley, G. W. Varnell, S. Peech, H. W. Hooper, H. Daws, J. Dunsford, G. Yeomans, E. Braby, H. Withers, and J. Stockley.

The Secretary read the advertisement convening the meeting, the minutes of the previous meeting (which were confirmed), and the following "Abstract of the Proceedings of the Council:"

Abstract of the Proceedings of the Council of the Royal College of Veterinary Surgeons, during the Year 1851-52.

The Council of the Royal College of Veterinary Surgeons, in laying before the body corporate their Eighth Annual Report, have to state, that so even has been "the tenor of their way," a very brief abstract will give the whole of their labours for the year.

The completion of the Register is, perhaps, the point of the greatest importance which the Council have to notice. The first official list, published in 1848, contained 708 names; a revised list, laid on the table this day twelvemonths, had 1284 names; and the one recently completed contains 1736 names, and is believed to be as perfect a document as, under all circumstances, can be compiled. The Registrar, *Mr. A. Cherry*, aware of the

difficulty of the task before him, requested the aid of a Committee, and Professors Simonds and Morton, and the Secretary, were named for that purpose. What with irregularity in the entries of admission, the loss of records, and the unwillingness of parties to afford information who could well have done so, and who were again and again applied to, the labours of the Committee were of a very laborious and lengthened nature; and nothing but the very liberal manner in which the documents of the Royal Veterinary College were placed at their disposal could have enabled them to have brought their labours to a satisfactory termination. It is believed that, by the body of the profession, this result will be received as a boon; and as the extensive dissemination of the Register was the more immediate object, the Council have to state, that it can be obtained, on application to the Secretary, on the transmission of eighteen postage stamps (twelve for the document and six for the postage). Copies of the Register have been sent to the Horse Guards, Hon. Board of Ordnance, India House, College of Physicians, and College of Surgeons, London; the College of Surgeons, Edinburgh; Royal Agricultural Society of England, Highland and Agricultural Society, Royal Veterinary College, Editor of "The Lancet," and Editor of THE VETERINARIAN, Professors Sewell, Spooner, Simonds, Morton, and Dick; the Principal Veterinary Surgeon of the Army, and to all the cavalry regiments. The replies from the Horse Guards and India House will give some idea of the manner the document has been appreciated by the heads of the several departments:—

"Lord Fitzroy Somerset presents his compliments to the Secretary of the Royal College of Veterinary Surgeons, and has the honour, by desire of the Commander-in-chief, to request that he will express His Grace's thanks to the President for the copy of their Charter, Bye-laws, and Register, which he has been so good as to forward to this department."

"*Horse Guards, 18th March, 1852.*"

"*East India House, March 25th, 1852.*

"Sir,—I am commanded by the Court of Directors of the East India Company, to request that you will convey their thanks to the President of the Royal College of Veterinary Surgeons for the copy of the Charter, Bye-laws, and Register of the College, presented to the Library in this house.

"I am, Sir,

"Your most obedient humble servant,

"*E. N. Gabriel, Esq.*"

"*J. D. DICKENSON.*"

The duties of the Registrar having thus been satisfactorily performed, that gentleman tendered his resignation to the Council, by whom it was received, and a cordial and eulogistic vote of thanks awarded him.

Another subject, on which the Council would have been but too happy to have stated a favourable result, is their application

to Parliament for a bill to exempt the members of the profession from serving on juries, and parochial and county offices; but in their endeavours to obtain this boon they have, for the present, failed. Aware of the value of a division of labour, the Council appointed a Committee also to carry out this object. The gentlemen selected were the President, Professors Spooner and Simonds, Messrs. Henderson, Mayer, A. Cherry, and the Secretary. From their arrangements the bill was introduced into the Lords, and passed without opposition. In the Commons it was read twice and referred to a committee, in which, from some opposition, altogether unexpected, it was thrown out. At the fitting time, when political excitement shall have somewhat quieted down, your Committee will be prepared to resume their labours.

Your worthy President, Mr. W. Robinson, who last year presided at the Annual Meeting as the *locum tenens* of our first President, Mr. T. Turner, so satisfactorily fulfilled the duties of that office, that his unanimous election for the ensuing year was determined on. The Council having during that period experienced the advantage of his able, calm, and courteous demeanour, but one feeling, and that a most satisfactory one, has been the result.

In the Board of Examiners some changes have taken place. Mr. Bransby Cooper, the highly respected Chairman of the English division, has resigned. The terms in which he tendered his resignation to the Council, the manner in which it was received, and his eminent services acknowledged, were alike honourable to both parties. The Chairman of the Board is now Professor Brande, a name that renders eulogy unnecessary; and the vacancy in the Board has been filled by the appointment of Mr. Quain, of the London University. Mr. Goodwin, who has left London, and whose health has not been such as his friends could wish, has also resigned: his place is most ably and efficiently supplied by Mr. Mayer.

Several deaths have occurred during the year, two of which require especial notice, because they have deprived us of men who were working well with and for us. The late Mr. W. J. Godwin, of Birmingham, was a most zealous member of the Council, unremitting in his attendance, and ever ready to lend a helping hand to the onward progress of the profession. Mr. Tindall, of Glasgow, was a member of the Scotch division of the Board of Examiners, and on no one occasion was he absent from his post. They have both been taken from us in the prime of life, and the Council, it is feared, will long have to look for others to replace them.

Precisely the same number of pupils have received the Diploma of the College this year as did last; viz., forty-one. The

number which have passed since the obtainment of the Charter is 402. The names on the register are 1736, and the authenticated deaths 408, thus leaving 1328 members at present either practising or reaping the advantage of having practised their profession.

The financial report of the College will be found satisfactory, although extraordinary demands have again been made on its funds. These have arisen from the endeavours made to obtain an act of exemption and the new edition of the Register. A balance, however, of £304..17s.4d. is still in hand, all liabilities having been liquidated up to the present day.

These statements, few and short, give the epitome of the labours of your Council for the year. Their object has been the improvement and well-doing of the profession, with the direction of the interests of which they have had the honour of being intrusted. "Few and far between" have been the exceptions to this, the Council had almost said, unanimous course of action. That it soon may become so, and that the result may be such as to be felt by every member of the profession, and so felt as to be gratefully acknowledged, is the earnest wish with which they close their Annual Report.

E. N. GABRIEL, Secretary.

ALEXANDER HENDERSON, TREASURER, in *Account of Cash with the Council of the Royal College of Veterinary Surgeons.*

1851.	DR.		
April 8,	£.	s.	d.
To Balance from last Year	220	6	3
— Examination and Ad-			
mission Fees . . .	522	5	6
— Copies of Register . .	1	3	0
	<hr/>		
	£743	14	9
	<hr/> <hr/>		
1851.	CR.		
April 8.	£	s.	d.
By Exemption Bill Expenses.	129	14	6
— Fees paid Board of Ex-			
aminers	109	4	0
— Allowance to Secretary .	100	0	0
— Printing	42	5	6
— Advertisements	10	6	11
— Rooms for Meeting . . .	14	6	0
— Stationery, Postages, &c.	13	14	6
— Reporter	14	1	0
— Registration Committee			
Expenses	5	5	0
— Balance due to the Royal			
College of Veterinary			
Surgeons	304	17	4
	<hr/>		
	£743	14	9
	<hr/> <hr/>		

We, the undersigned, have audited the above, and found them correct.

April 19, 1852.

W. GEO. REEVE,
JAMES HALL.

Mr. Cartledge moved the adoption of the "Abstract."

Mr. Broad seconded the motion.

Mr. Cherry said he wished to draw the attention of the meeting to that part of the report which applied to the Bill of

Exemptions. That bill, he said, had cost the Council £129 and it was, to him at least, a measure of very questionable policy. It had the effect of shutting out many country practitioners from that *éclat* (?) which frequently attended their serving on parish offices; and he wished the meeting to consider well whether the obtaining such a bill would really benefit the profession. In his own opinion it would not. The serving on parish offices made men extensively known, and often led to practice which otherwise would slip through their fingers. Moreover, there were certain paid offices from which such a bill would exclude them; offices which, he was sorry to say, the profession in many instances had abundance of time to fulfil.

Mr. Pritchard said he was surprised to hear the remarks made by Mr. Cherry, seeing that the general feeling of the profession was most averse to the acceptance of parish offices. He was sure there was not a member of the profession within twenty miles of London who did not dread the possibility of his being called upon to act as overseer; the office of churchwarden was bad enough, and that of a juryman was ten times worse. (*Hear.*) The object of the bill was one that was universally desired among the profession; and, for himself, he should be ready to subscribe ten times the amount of what he had hitherto subscribed if it could be in any way obtained.

Mr. Burley said he had been engaged in obtaining signatures to the petition in favour of the Exemption Bill, and had, therefore, had a good opportunity for ascertaining the general feeling of practitioners in the provinces. That feeling was an unanimous one in favour of the bill; indeed, he did not know a single member of the profession who did not express himself strongly on the point. It not unfrequently happened that veterinary surgeons had to go fifteen or twenty miles to the assizes, and serve four or five days on the jury. He thought they were entitled to relief equally with the medical profession. Medical men did not seem to think it a benefit to be dragged into parish offices; and he saw no reason why it should be regarded as a privilege to the veterinary profession.

Mr. Braby said he thought Mr. Cherry was labouring under a mistake in supposing that the bill was a prohibitory one. If veterinary surgeons were desirous to serve on juries or as churchwardens they could still do so; the bill only exempted them from the *obligation* to fill these offices.

Mr. Dickens thought the bill would have the effect (a very desirable one) of letting the public know who were veterinary surgeons and who were not. (*Hear, hear.*)

Mr. Stanley bore testimony to the general favour with which the bill was regarded by the practitioners in Warwickshire.

Mr. Dunsford testified to the unanimity of feeling of London members of the profession as to the expediency of the Exemption Bill.

Professor Spooner was glad to find that the subject of the bill had been introduced by Mr. Cherry, as it had been the means of eliciting the opinion of the meeting respecting the desirability of the Council persisting in its endeavours to obtain an Act of Exemption. £129 certainly appeared a large item of expenditure; but it was not larger than was justified by the end contemplated. Mr. Cherry was evidently in error as to the general feeling of the profession, and all his observations respecting the supposed injurious tendency of the bill were abundantly met by Mr. Braby's statement that the bill was not intended as a prohibitory one. Those who were desirous to fill parochial offices could intimate the fact to the proper authorities, as there was nothing in the bill to disqualify them; but he apprehended that very few members would like to have so much of their time abstracted from their professional pursuits. One great object of the Charter was to form the profession into a recognized body, so as to give them the power of applying for a bill of exemptions of this kind. It had been even suggested that they might obtain an act which would give them yet more protection than that sought by the last bill, so as to prevent the increase of charlatanism in the profession. It was, however, deemed impolitic to press that portion of the subject, lest, by asking too much, they should gain nothing. He was in no way disheartened by the fate of the last bill; and, after what he had heard to-day, he should feel called upon to exert himself more than ever to promote another application to Parliament when a fitting opportunity presented itself. (*Applause*).

Mr. Cherry, in reply, said he was still doubtful, notwithstanding the observations which had been made, as to the general feeling of the profession; for the present meeting consisted only of some thirty persons out of 1328 members. It was true, that the bill was not prohibitory; but the person exempted would have to make application to be removed from the exemption, which was certainly not so convenient as allowing things to take their own course. There were some paid offices from which he would be exempt—that of surveyor of the roads, for instance, from which he would be prohibited unless he made a special application to have the prohibition removed. The gentlemen who had spoken had, no doubt, expressed their own feelings, but he denied that they were the feelings of the body at large.

The Chairman said he could assure Mr. Cherry that the office of surveyor of roads was not a paid one. He had himself

been recently elected to fill that office, notwithstanding every effort he had made to avoid it, and had suffered much inconvenience from the appointment, as its duties were extremely difficult and onerous.

Mr. A. Cherry said that he had communicated (as a member of the Exemption Committee) with a great number of country practitioners on the subject of the bill; and a favourable opinion respecting it had been communicated to him from at least four or five hundred persons; and when it was remembered that the addresses of half the members were not known, he thought that number represented a very fair proportion of the whole.

The motion for the adoption of the Report was then put, and carried *nem. con.*

ELECTION OF MEMBERS OF THE COUNCIL.

The Chairman stated that, in addition to the vacancy occasioned by the death of Mr. Godwin, there was another, caused by the resignation of Mr. F. King. Two gentlemen would, therefore, have to be elected to fill these vacancies, and also six others, in the room of the members who retired annually by rotation.

In addition to the gentlemen proposed as members of the Council at the last Council meeting, the following gentlemen were nominated :—

Mr. Harry Daws, by Mr. Hall

Mr. B. Cartledge (Sheffield), by Mr. Peech.

Mr. Cherry moved for a return of the number of attendances of the members who retired by rotation, those gentlemen being eligible for re-election.

Mr. H. Daws seconded the motion, which, on being put to the meeting, was rejected.

Mr. Daws asked if members of the College of Surgeons were exempt from serving on parochial offices by Act of Parliament.

Mr. Burley replied in the affirmative.

Professor Spooner said that the act only applied to surgeons and physicians in London and some of its environs, and that country members of the profession were only exempted by courtesy and custom.

Mr. Pritchard stated that the Apothecaries' Bill included country members.

The Chairman said the Juries' Bill of George IV specifically exempted surgeons and physicians from serving on juries.

The ballot for the members of the Council then took place,

Messrs. Cartledge and McGinnis having been appointed scrutineers. The result of the ballot was as follows:—

Mr. W. Robinson . . . 26	Mr. Stockley . . . 14
— J. Turner . . . 26	— Wells . . . 14
— Henderson . . . 23	— Gowing . . . 10
— Percivall . . . 23	— Dunsford . . . 10
— Pritchard . . . 23	— H. Daws . . . 6
— Peech . . . 18	— Cartledge . . . 4
— Varnell . . . 15	— Hall . . . 3

The following seven gentlemen were declared elected:— Messrs. Robinson, Turner, Henderson, Percivall, Pritchard, Peech, and Varnell. Mr. Stockley and Mr. Wells having received the same number of votes (fourteen), a ballot was taken, which resulted in Mr. Stockley's favour.

Another ballot was then taken to decide which of the gentlemen elected should fill the places of Mr. Godwin and Mr. King. The election fell on Mr. Robinson to fill the place of Mr. King, and Mr. Henderson that of Mr. Godwin; so that these gentlemen will remain on the Council till the expiration of the period for which their predecessors were elected, namely, Mr. Robinson till 1855, and Mr. Henderson till 1854.

Professor Spooner moved a vote of thanks to the Chairman for his presidency at the meeting.

Professor Morton seconded the motion, which was carried by acclamation.

The Chairman, in acknowledging the vote of thanks, expressed a hope that harmony and unanimity would be cultivated among the members of the profession, as the only means by which a real and lasting progress could be secured.

The proceedings then terminated.

MUZZLING DOGS, AND ON RABIES.

OUR Number for December 1851 contains a letter from a member of the veterinary profession—Mr. Litt, of Shrewsbury—taken by us from the *Shrewsbury Chronicle*, “on the impropriety of muzzling dogs,” embodying some observations which hardly less deserve the attention of the public at large than our own especial consideration as more immediately concerned in the professional bearings of the subject, and in some opinions which Mr. Litt has put forth on the much-agitated subject of *rabies*. From this letter it appears, that on some occasion during last year the mayor of Shrewsbury, as other mayors, magistrates, &c. have often done, issued an order “that no dogs

should be allowed to go in the streets *unmuzzled*," under the penalty of fine, which was, in some instances of default, actually inflicted. With the order and fine Mr. Litt disclaims having any thing to do, beyond a permission to inquire, in his professional capacity, whether it be calculated to effect its object, which is clearly that of the prevention of the dissemination of canine madness.

Professional persons are now persuaded that rabies is a rare disease, and that the accounts of it, as being so frequent, and in the "dog days" in particular, are for the most part groundless, and calculated rather to frighten the ignorant and unwary than to be productive of any good; if, indeed, they do not work positive harm, by giving rise to such injudicious proclamations and orders as the one issued by the Mayor of Shrewsbury. "The quietest dogs may be made savage by keeping them continually tied up; and the use of the muzzle alone will, in most cases, make them snappish and ill-tempered:" an excited state, in which the animal is not unlikely, *in the dog days*, to be denounced as "a mad dog." For this cogent reason Mr. Litt repudiates the practice of muzzling dogs; shewing that it not only, on occasions, absolutely does serious mischief, but also that with the muzzles, constructed as they commonly are, were dogs disposed to bite, they retained, in their muzzled condition, still the power of doing so. Added to which, Mr. Litt contends that there exists no more necessity for taking precautionary measures against the production or propagation of rabies in the "dog days" than in other seasons of the year.

We believe we may award to Mr. Litt the credit of being first in the field to point out this mis-application of the dog-muzzle; and the praise due to him for it is by no means small. As connected with rabies, the subject is one admitting of a good deal of exemplification, and probably some elucidation; and we would gladly have made an entry ourselves into so prolific a field, had not, in the early part of last March, the following letter been addressed to us by a much-valued friend, whose thorough acquaintance is a voucher to us for the correctness of every word of its most interesting narrative.

Nottingham Barracks, January 8th, 1852.

My dear Percivall,—IN the December Number of THE VETERINARIAN, a paper appeared from Mr. Litt "on the impropriety of muzzling dogs in summer," as a means of preventing attacks of hydrophobia. This is a question deserving our serious consideration. Mr. Litt, in his well-written paper, adduces many reasons in support of his opinion; and I am well aware that there are many others who think as he does. The writer

states that hydrophobia is a disease exceedingly rare; and, thank goodness and the dog tax! so it is. The susceptibility to it does not appear to exist to nearly so great an extent in man as in the lower animals. I quite agree with him, that the application of the muzzle to dogs tends to make them "snappish and ill-tempered;" and, moreover, it is a direct cruelty, inasmuch as the dog being an animal who perspires very little under exertion, this seems to be compensated for through great slaving, accompanied by an open mouth, pendant tongue, and quickened respiration. If a dog could be made "ill-tempered," I certainly think it would most readily be effected by chaining him up and muzzling him; but whether these means will produce a *rabid* state or "a disease of the nervous system," rendering him capable of producing hydrophobia in man by inoculation, is a question I am incapable of solving. It may be that a malignant virus may be engendered by such means, capable of producing these effects in certain constitutions peculiarly disposed to it, but yet not of sufficient activity in the dog to produce symptoms of decided rabies. It is earnestly to be hoped that it is not so. Opinions are so greatly divided on this dreadful disease that we are still in the dark as to its real nature. It is asserted by some that cases have been known where people have been bitten and become mad, and the dog has remained perfectly well. If these cases will bear thorough investigation, it is a dreadful contemplation, and enough to make us at once discard our most faithful companion. The human mind, by dwelling on this dreadful disease, is often said to produce it, or at least to be mainly instrumental in its production; and numberless cases would lead us to believe that it is so. Again, on the contrary, how often have people been bitten, as it was supposed, accidentally, by a dog in play, and the very circumstance forgotten until the symptoms of hydrophobia appeared; when the disease has been traced back to the first apparently trifling circumstance, and then, on inquiry, the dog has been found either to have died rabid in the interim, or to have been lost sight of.

Again; children cannot be said to think seriously of the danger attending an apparently trifling scratch or bite, and, although instances are rare, yet are they numerous enough to shew they are not exempt from the disease. Mr. Litt states that rabies is unknown in tropical climates. I cannot quite agree with him in this remark. I believe it to be a rarer disease in hot countries, but not unknown. In England we hear but little or nothing of this disease as it exists in tropical countries, which possibly may arise from many causes, such as the carelessness and apathy regarding human life, the paucity or total absence of newspaper reports, and the general opinion that

destiny is a sufficient cause for every thing which happens: nevertheless that cases do occur now and then, and perhaps oftener than we imagine, there can be no doubt of. During the period when the 11th Hussars were in India, they lost two soldiers from hydrophobia, and other cases were well known to have occurred. I may also mention the common custom, during the hot months, of having men specially employed to kill all stray or wild dogs found about the cantonments, and that a reward is given for each animal destroyed, and all with the object of the prevention of hydrophobia. The heat of climate in tropical countries certainly has nothing to do with the more frequent production of the disease. Again, Mr. Litt makes a valuable remark, that the attacks of the disease are not found to be confined to the summer months, but that it may appear at any time of the year. This is also, I believe, strictly true; and I may here make an observation which may perhaps be found correct, and, if so, will bear much upon what Mr. Litt has stated.

Rabies exists in cold countries as well as hot. Temperature seems to have nothing to do with the propagation of the disease. A gentleman, who has lately been a missionary in Canada, told me recently that, whilst he was there, he was informed that rabies was more common in winter than summer, which the natives attempted to account for by the dogs not being able to get at water. This assertion it would be very advisable to carefully inquire into, since, although it is most fully believed by the gentleman as correct, yet may he have been misinformed. In fact, we are at a loss how to account for the appearance of the disease, though we know enough of it to make us dread the bite of a dog under certain conditions of his system. If dogs which are supposed to be rabid, and which have bitten people, were strictly confined, and their symptoms most carefully watched by a veterinary surgeon, instead of their being immediately shot down as mad, it would tend much to the elucidation of the nature of the complaint, and probably to the ultimate safety of the individual; and if we could only properly arrive at the causes, we might be able at least to suggest preventive remedies, which, I imagine, mainly consist in allowing the animal a state of freedom, and, as far as possible, accommodating his food, habits, and exercise, to his disposition and nature.

In another part of my letter I mentioned that man, most fortunately, was not nearly so susceptible to hydrophobia by inoculation from a rabid dog as the lower animals were. I had a most illustrative case of this when I was in the 10th Hussars, while stationed at Cahir, in Ireland, in the year 1844. I will not enter into all the circumstances at length, for the associations

connected with it are sad. The cases occurred at out-quarters.

Major ——— and Cornet ———'s horses occupied one stable, three horses belonging to each officer. The cornet was passionately fond of his horses. The major had two very favourite dogs, a pointer dog and bitch, which lived in the stable. One day a man in the yard heard a great noise in this stable, as if horses were loose and kicking; from which being continued, he went in and saw the pointer dog in the act of springing at one of the horses, while all the others were in the greatest state of excitement. The dog was immediately secured and the horses examined, and three were, I think, found bitten, with blood flowing. A month from this date a horse belonging to the Cornet was taken suddenly ill, and with such symptoms that the farrier could not at all understand: a veterinary surgeon was immediately called in, but in about eighteen hours the animal died. The owner, by this time, had some misgivings in his mind, and came to see me early on the following morning. My first inquiry, after hearing the case, was, What has become of the dog? He was dead.

I hurried over, and saw the veterinary surgeon, who told me the state of the horse. The gentleman, up to the time I saw him, was ignorant that the animal had been bitten, but when I told him of it he suffered excessively. He described the horse as being taken with an affection something like tetanus, but distinct from it, attended with convulsions, snortings, and tremblings, and that he was apparently in the greatest state of nervous excitement, insomuch that he could not be restrained. He told me, he could not tell what was the matter with him, and that he had never seen any thing like it before; and that in his treatment he attacked the most prominent symptoms by blood-letting, physic, and opiates, but that the horse quickly sank and died frantic; and he particularly described the appearance of his eye as being excessively wild and watchful.

I now inquired about the dog, and found that he had been removed to a coach-house, and chained in a large barrel, and these were the circumstances that guided my opinion of his case. The stable-man declared that he was constantly howling, but that his voice was completely changed, both in the bark and howl; that he had gnawed the side out of the tub; that he ate his own excrement and the straw and dirt of his kennel, and appeared to be always watching something; and that his eyes were glaring was another fact.—Where was the companion bitch? She had been also separated, and, in about a fortnight after the dog died, became affected in a similar manner, and died.

My mind was satisfied; the major, who was the kindest and

most humane man I ever knew (and more especially to dumb animals), was incredulous. However, by my advice, the barrack dogs were all ordered to be tied up and carefully watched, and I then attentively examined the remaining horses. I could see nothing the matter with them; no wounds were now to be observed, and they were feeding as well as usual. All that I could suggest was, that any strange symptoms, however slight, should be carefully watched, and that I should be sent for immediately any fresh circumstance should arise.—In about a week from this time I was summoned, and the message was, that there was nothing very particular, but still that the servant was not altogether satisfied with the state of affairs. I found the suspected animal, when I arrived, quietly, but apparently as if mechanically or unconsciously, feeding in his stall; but, on watching him, he would suddenly cease feeding, and was engaged, apparently, in watching something crossing the ceiling, and he would snort and hang back as if frightened; this would go off, and the animal begin to pick his food over again: quickly succeeding this, came a spasmodic twitching of the muscles of the shoulder and neck, and the state of excitement in a few hours increased to a frightful extent. I had him taken to a loose box as quickly as possible, and bled to the extent of six quarts at once, and, by means of a stick, introduced a large dose of aloes. In a few hours the animal had, however, assumed other symptoms; the throat had become excessively sore; he could neither eat nor drink. I applied a large blister to the throat and neck. The horse often neighed, and his eye looked wild; he was constantly champing his mouth and watching every part of his box attentively, as if in terror, and would suddenly appear as if he would fall backwards; and many times during the progress of the disease he fell down, apparently dreadfully frightened, and worked as if in convulsions. In about six hours from the attack, if food or water were offered, he would rush at them, and with his nose throw them frantically up to the ceiling, and bran more particularly. A bucket, or any thing within his reach, he would seize with his teeth, and toss frantically up and down. The horse now began to be at times furious, for he would rush against the wall and fall down, and suddenly jump up again, and then for a short period experience lucid intervals. He was unsafe to be approached; and a man was left at the door of the box with a very large stick, to deter him. Matters went on from bad to worse until about twenty-six hours from the attack, when he rushed headlong against the half door (the top having been accidentally open), burst all before him, and galloped round the yard, shrilly neighing. After

making about three turns of the barrack-yard, he suddenly fell, and never moved. He was dead.

Having described one case, it is almost unnecessary to say more: suffice it to add, that five horses altogether died with symptoms nearly similar, the last being at an interval of two months from the supposed infliction of the bite. I did not examine any of them after death, for the subject was a very painful and unpleasant one to me. I was ordered officially to declare my opinion, and I could have but one (which I would much rather not have given), that the dogs and horses died *rabid*; on the strength of which report the major was called upon to pay for the young officer's three horses.—The worst remains to tell: the cornet, who was one of the most promising of young men, was continually thinking about his horses, and from that time became an altered man. He took all kinds of strange fancies into his head, and did all sorts of odd things; evident symptoms of mental derangement were at times manifested; and in about two years he left the regiment, considered by all who knew him to be slightly deranged. His further melancholy history is known to the public: he was the unfortunate Mr. Pate, who struck her Majesty.

I find my remarks have insensibly spun out to a greater length than I intended.

Believe me, dear Percivall,

Ever your's truly,

J. W. GLOAG.

W. Percivall, Esq.

OBSERVATIONS ON INTESTINAL CALCULI IN HORSES, AND ON SHOEING, COLLECTED IN INDIA.

By T. HURFORD, V.S., 15th King's Hussars.

To the Editor of "The Veterinarian."

Dear Sir,—SOME cases of intestinal calculi, related in last month's VETERINARIAN, have recalled to my mind how constantly I have been astonished by the presence of quantities of gravel, &c. in the intestines of horses in India.

There, the troop horses are picketed in the open air, no pavement, no racks and mangers, and the quantity of dirt, &c. eaten by some of them is wonderful: it is not confined simply to clay, but good sized pebbles, pieces of pottery, nails, &c., I have con-

stantly met with. In fact, persons, strangers to the disease (for it is one), would hardly credit the state of the intestine in a horse which has died under these circumstances. I have seen the mucous lining of the colon coated with mud, while the intestine itself was full of such substances as I have mentioned, mixed with a small quantity of food. I send you one case, which will serve to shew the quantities of filth some horses will eat; notwithstanding this states only the quantity actually weighed. During purgation, &c. much was lost, and I was particularly careful in seeing that no extra dirt was scraped up. I washed the evacuations in several waters, till the remains of food, &c. were dissipated, and the residue, being drained, was weighed. I think you will find that I weighed 12 lbs. 1½ oz.

September 2d, 1848.—G 205, admitted. Inflammation of bowels; appears dull, and in no very acute pain; pulse quick and hard. V.S. ad lbs. xvij. R Calomel. ʒj.

3d, A.M.—R Aloës ʒv, zingib. ʒj. Blister sides; injections. 5 P.M. physic operating; still dull; no appearance of acute pain; feeds.

4th.—Much the same; physic still operating.

6th.—This morning dung rather set. In one evacuation there were ʒxij, and in another ʒix of gravel. Keep all the dung for inspection.

7th.—This morning ʒvij have passed. Animal rather dull, but feeding.

8th.—This morning ʒiij of gravel. R aloës ʒij, calomel. ʒss, opii ʒj, every morning. 5 P.M. gravel ʒvj passed since morning. Add gentianæ ʒj to each ball.

9th.—Gravel ʒij. 5 P.M. gravel ʒj. Let the daily ball be, Aloës ʒij, zingib. et gentianæ āā ʒj, opii ʒj, calomel. ʒss.

10th.—Gravel ʒijss; feeds. 5 P.M. slightly moved by medicine.

11th.—Purging; gravel ʒvj. Discontinue balls; half feed; he is much better.

12th.—Between 8 A.M. yesterday and 6 A.M. to-day, he passed gravel ʒxij; feeds well. 5 P.M., since 6 A.M. he has passed gravel 2 lbs. 1 oz.

13th.—From 5 P.M. yesterday to 6 A.M. to-day, 3 lbs. 12 A.M., he has passed since 6 A.M. ʒxij; begin the balls again. 5 P.M., he has passed 1 lb. 1 oz.; feeds well.

14th.—6 A.M., he has passed ʒvij during the night.

15th.—He has passed gravel ʒiij.

16th.—He has passed gravel ʒvij.

17th.—He has passed gravel ʒiij. From this to the 21st no gravel, and he feeds well. Discontinue medicine.

23d.—Discharged, well.

The remarks on shoeing have also interested me much, though I cannot agree entirely with the system. I think that, provided the shoe fits the foot and the rim be not too narrow, its being concave with the sole is of no consequence. My directions to farriers are, leave the frog in such a state as that, when the shoe is nailed on, a rule laid across the heels or quarters shall not touch it. The shoe may be laid on the foot at a dull heat, and the less the toe-knife is used the better. Six or seven nails, according to the size of the foot.

I cannot understand why a new shoe is to be made turned up at the toe, the same shape as a worn-out one. The old shoe has become rounded from the greater wear at that part, consequent on its being the point of resistance. By rounding the shoe we lessen the degree of resistance, which tells more particularly in draught: this, at least, is the view I take of it.

Very truly your's.

CASES OF RHEUMATISM, WITH REMARKS.

By ISAAC SEAMAN.

To the Editor of "The Veterinarian."

Sir,—Be kind enough to insert the inclosed in your valuable publication: by so doing you will much oblige

Your obedient servant,

ISAAC SEAMAN.

Saffron Walden, May 12th, 1852.

ATTACKS of rheumatism in the horse are of frequent occurrence, from the fact of this animal being often called upon to perform laborious exercise, producing excessive heat of the body, in which state he is exposed to cold and moisture. Under these circumstances the animal becomes affected with rheumatism. The parts that seem most generally attacked are, the muscles of the neck, parietes of the thorax, lumbar region and joints of the extremities; to which respectively are applied by farriers, I believe, the terms *chine felon*, *chest founder*, *joint felon*, &c. When it comes on suddenly, swelling and tenderness are more or less apparent. In some cases the pain must be very acute, the affected limb trembles, and drops of perspiration run down the hair; and this seems to be increased by the action of the affected muscles. It is liable to sudden metastasis to muscles of a different region, or to the joints, and causes at times much systematic disturbance. Sometimes it

becomes chronic, and no swelling is observed: the pain and lameness not only shew themselves at irregular intervals, but are increased by sudden changes in the atmosphere, or by cold and moisture in a heated state of the body.

In illustration of the foregoing remark, a brief history of three cases that have lately been under treatment may not be uninteresting.

CASE 1st.—A brown female pony, five years old, thirteen hands and a half high, the property of Mr. J. Livings, Chesterford Mills, Essex, had been subject to lameness and stiffness of the loins for about two years. She had been used during the hunting season to drive to cover. I had noticed a straddling gait and arched back some little time previously to being called in to attend her. She had hitherto been treated for farcy.

January 30, 1852.—I was called in to attend her; she had been driven to cover the day previously, and was taken suddenly lame, very lame in the near fore extremity. The limb was trembling and hot; all its joints flexed; the toe held on a level with the toe of the opposite fore leg, and merely resting upon the ground; it was not able to bear any weight of the trunk: movement could be accomplished only under difficult circumstances. A fracture could not have produced more lameness. There was knuckling of the fetlock, tenderness and heat in the heel and round the coronet, and over the flexor muscles above the knee. The back was arched, and there was a straddling gait.

TREATMENT.—Shoe removed, and sole and wall thinned. Warm poultices applied to the foot, and a mild dose of physic given. Hay and bran ordered as food, with which was given daily a little nitre and tartar emetic. This treatment was continued for about three weeks without the lameness subsiding in the least. There might not be quite so much pain; the limb did not tremble so much. Appetite was not at all impaired. Hay and bran were partaken of freely from the first.

Stimulants, in the form of liquor. ammoniæ cum ol. lini and ol. terebinth. in equal quantities, were now applied to the fetlock and coronet daily. This treatment was continued for a fortnight, when the lameness had almost subsided. The opposite fore leg now became affected equally severely: stimulants were applied to the fetlock and coronet of this limb with considerable advantage for about a week, and it got pretty right. Both legs tremble a little in the standing position, and the back remains arched. The off hind leg then became affected with lameness and excruciating pain. Inside the thigh was moist and tender, and there was an elastic swelling over the cuneiform bones, remarkably tender. Stimulants, as before, were applied to the affected parts, and the following mixture given twice a day:—

Olei lini..... $\overline{3}$ iv
 Olei terebinth. $\overline{3}$ j
 Pulv. colchici $\overline{3}$ j

In a fortnight lameness had subsided, and nothing remained but a little arching of the back, but without straddling gait.

CASE 2d.—A cream-coloured male pony, aged five years, the property of Mr. J. Reeve, Linton Mills, Essex, was attacked, February 25, 1852, with severe lameness in both fore legs. The day previous he had been doing draught work, and became excessively heated; after which he was put in an open yard, exposed to draughts of cold air, and to moisture. I was requested to attend him the following day.

SYMPTOMS.—Very lame in both fore legs, which were extended forward, the heels merely resting upon the ground. The hind feet were not placed under the body, as in acute laminitis, but were rather inclining backward. The shoulders, neck, parietes of the thorax, both before and behind the scapula, were hot, moist, and remarkably tender. The breathing was hurried, pulse 60 and irritable, countenance anxious, nostrils dilated; the fore legs trembled, and their position was frequently altered; there was great disinclination to move; motion of the affected muscles gave much pain, for the fore legs put in motion were beyond the power of the animal to control; and the poor brute, if not supported, would tumble headlong. There was no appetite.

TREATMENT.—The fore shoes were removed, the soles thinned, and the crusts shortened; the feet put in warm poultices, and ordered to be kept moist and warm; all four legs bandaged with flannel, from the feet to the arms and thighs, and the body clothed with blankets. Aloës Barb. $\overline{3}$ ij, pulv. zingiberis $\overline{3}$ ij, hyd. chlor. $\overline{3}$ j, given in a ball; and the following mixture night and morning, olei lini $\overline{3}$ iv, olei terebinth. $\overline{3}$ j, pulv. colchici $\overline{3}$ j. Liniment, as ordered in the first case, to be applied twice a day to the parts affected. Bran, hay-tea, and linseed porridge ordered as food.

April 2d.—No amendment has taken place since last report: his sufferings have been great during the week. Very little food has been taken, and the animal has spent most of his time laid. Pulse 50, and irritable.

TREATMENT.—Olei lini $\overline{3}$ ij, pulv. colchici $\overline{3}$ j, twice a day; otherwise treated as before.

April 9th.—Decided amendment has taken place during the past week.—The pony is able to get about his box pretty well: his appetite is improving; the fore legs are still extended in the standing position, but do not tremble so much: the countenance is more lively. Pulse 45, and regular.

TREATMENT.—Ol. lini ℥ij, ol. terebinth. ℥j, to be given every other day. Legs to be kept bandaged, body clothed, and poultices discontinued.

April 16th.—Very much improved. Pulse 40, and regular. He is able to stand upon his legs perpendicularly, without trembling, and to move about his box freely. Appetite still improving; pain is evinced on pressure over the muscles behind the scapula.

Liniment, as before, ordered to be occasionally applied to the shoulders and chest, and warmth maintained.

The pony gained his health and the proper use of his limbs about six weeks after the attack, but suffered extreme loss of flesh.

CASE 3d.—Another case, having many of the leading characteristics of rheumatism. A brown chaise mare, aged eight years, the property of a gentleman in this town, had had sudden and severe attacks of lameness in the near hind leg, and as suddenly recovered.

April 5th, 1852, she had a still more severe attack whilst on a journey, and could only with difficulty walk home.

The following day I was requested to attend. I found her standing in her box, with the near hind leg flexed, the toe merely resting upon the ground. There was fulness in front of the stifle joint, and a hard elastic tumour, about the size of a hen's egg, outside the same joint, which was remarkably tender; also, inside the thigh was tender, and the groin was hot and moist. In motion there was a dragging of the limb, and the heels were not put to the ground by a considerable distance.

TREATMENT.—To have olei lini ℥iv, pulv. colchici ℥iss, olei tereb. ℥ij, morning and night. Liniment, as used in the other cases, to be applied over the front and outside of the stifle joint.

In four days the mare was free from lameness, and in a week resumed her usual work, which she has performed sound.

A DOUBTFUL CASE.

Sir,—SHOULD you deem the following case worthy of insertion in your valuable Journal, it is at your service. I should be happy to receive the benefit of your experience upon the observations I have affixed to this account.

I am, Sir,

Your obedient servant,

A VETERINARY STUDENT.

April 5th, 1852.—I was requested to visit a two-year-old colt, the property of Lieut. Downes, Alnmouth, Northumberland. Upon arriving, I learnt the following history of the case from the farm steward. That they had only recently succeeded in extracting him from a boggy piece of ground, which joined a rivulet in the neighbourhood. This was effected with some difficulty, for the animal had occasionally struggled violently. He was unable to walk to the nearest place of shelter, and they had forcibly dragged him some three or four hundred yards by the aid of another horse. At that time I arrived, and at once proceeded to make an examination.

Pulsation feeble, and about the natural standard; respiration somewhat impeded; visible mucous membranes slightly injected; surface of the body and extremities cold. I at once concluded that he was suffering from considerable prostration of strength only. A stimulant was prescribed and given to him in some warm gruel, and considerable friction was applied to the surface of the body and extremities. He was conveyed to a stable, and the stimulant and friction repeated until the circulation was partially restored. The pulse then rose nine or ten beats in the minute; but was not of that character which indicates inflammatory action. He could not maintain himself in the standing position; when urged to do so he would plunge and roll upon his back. Reaction having taken place, he was carefully watched, so as to take immediate cognizance of any termination that might be produced from the length of time to which the several functions of the system had been in a deranged condition. In the course of an hour he evinced symptoms that apparently indicated an attack of spasmodic colic. I administered a dose of anti-spasmodic mixture, and had the friction confined to the abdomen. Pulsation had not increased; the visible mucous membranes were not more injected; but I could detect a little febrile action in the afternoon. His extremities were warm, but continually extended. All attempts to urge him to rise were futile. I saw him again in the evening; he was lying down upon his left side, and apparently without pain; but was alarmed and would struggle on my approach. Tenesmus was also present. Not being satisfied to have the responsibility of treating the patient at this stage, I advised the proprietor to call in the attendance of another practitioner, to which he consented. The veterinary surgeon came early the next day, and pronounced the case as one where the patient was suffering from pressure upon the spinal column. The treatment which he suggested was simply the application of a strong rubefacient along the course of the spine, and to confine him to succulent diet. He visited him upon the following day, and no favourable

change of symptoms having taken place, we advised the owner to have him destroyed. This was effected by means of blowing into the jugular vein.

THE POST-MORTEM APPEARANCES.—Upon laying open the abdominal and thoracic cavities, the peritoneal covering presented nothing abnormal. I commenced an examination of those organs immediately concerned in the function of digestion. The mucous membrane lining the stomach was more or less injected, and, apparently, some gangrenous patches were visible. The continuation of the alimentary canal throughout its entire course, was in an injected condition; presenting, also, the various gangrenous tints, from a light pink to the darkest brown. Upon dissecting off the mucous coat from such portions of the intestines as had been markedly inflamed, the muscular coat was scarcely involved. The chymous mass in the stomach, when cut through, presented alternate layers of comminuted hay and bran. There was some feculent matter in some of the large intestines. The kidneys were normal; as were also the liver, spleen, pancreas, &c. The lungs were slightly affected, the left lobe being covered with a large number of petechial spots, and upon cutting into the substance it appeared somewhat congested. All other viscera that were examined were normal.

OBSERVATIONS.—Was this animal suffering from a disease now known by the term of gastro-enteritis? If so, I may presume to add, that it was confined to the mucous coat of the stomach and intestines, and that the muscular coat was not involved, as the term gastro-enteritis would indicate.

The first question that presents itself, then, is, "What are the probable causes which produced the affection?" The second, "Was the disease in an incipient form prior to the animal being 'laired' in the bog?" The third, "Was the treatment judicious and founded upon general principles, so far as was warranted by the symptoms evinced by the patient?"

In reply to question number one, I would refer to the best hypotheses to inform me what anatomy and physiology demonstrate to be practicable. Might the long-continued application of water of a low temperature so derange the functions of the body, and that of the skin in particular, as to arrest the powers of that organ, and thereby call upon the mucous membranes to excrete the serous or excrementitious portion of the blood. If so, there may be at once obtained irritation, and subsequent inflammation of those membranes, that would finally terminate in sphacelus.

In replying to question number two, I can only reason hypothetically, and compare the symptoms of this disease with those that have been recorded by scientific practitioners. D'Arboval

informs me that the horses most predisposed to sudden attacks of this disease are "the young, vigorous, sanguineous and irritable." Now, it is a fact, that in this case the subject was such an one; might not therefore the disease be pending prior to the animal being "laired," and during the paroxysms of pain might he not have accidentally fettered himself amidst the mire? Again; the same author states, that the affected animal "insensibly loses his accustomed gaiety," and "seeks to refresh his mouth by licking any thing cold within his reach; he likes to plunge his nose into water, and as yet drinks freely."

With respect to the last question: By referring to the symptoms manifested when I first visited the patient, it may be at once conceived, that an agent acting upon the brain and nerves, and thus increasing their energy, would be administered; but was it judicious? I think not. If inflammation was at this period actually present, what treatment was required? Anti-phlogistic? The pulse was almost imperceptible, and remained low up to his death. It is unnecessary here to repeat that stimulants and anti-spasmodic mixtures, &c. were the agents employed. The effect of these upon the mucous membranes of the alimentary canal might be conceived, and might account for the hurried manner in which the gangrenous stage had been produced. The difficulty that existed in not being able to diagnose the presence of inflammation, was the cause of the injudicious treatment adopted by the qualified veterinary surgeon and myself. The former persisted in his opinion of the nature of the case, and was not able to diagnose the presence of the disease in question. I confess I could not satisfy myself of the nature of the malady; but I thought it resulted from some internal lesion. Why I did not acquiesce with the other medical adviser, was the fact of the hind extremities not possessing the characteristic features of paraplegia. I was more inclined to infer that the peculiarity of their extension was owing to some sympathetic action, and the post-mortem examination corroborated my opinion.

EXTENSIVE GLANDULAR DISEASE.

To the Editor of "The Veterinarian."

My dear Sir,—THE animal from which I took the morbid specimens I sent to you, was a cart horse, used in agriculture, from twelve to fourteen years old, and, when I first saw him, was in good condition. He was brought to me on the 8th of

March for my advice, &c. relative to a swelling upon the throat, which at that time was not large. On examination, I found it consisted of the parotid glands in a state of enlargement. I had the hair shaved off, and the biniodide of mercury applied, and repeated as frequently as the skin would admit. The tumours increasing, instead of diminishing, I had him brought to my stables on the 5th of April, so that I might have him more immediately under my care. On the 12th, a tumour appeared in front of the chest, in which he manifested great tenderness on pressure. This was stimulated with ol. canth., but without any reduction: in fact, both the tumours, upon the throat and chest, increased every time they were stimulated, until the one upon the throat attained the large size of five or six pounds; and in this condition interfered with his swallowing so much that the horse in time became a complete skeleton. On the 26th of April I prevailed upon his owner to have him destroyed.

The whole of the viscera were in a healthy state, except the liver, which had deposits of fat throughout its entire substance, exhibiting the same appearance as the portion sent to you. The mesenteric glands, immediately anterior to the kidneys, weighed from six to eight pounds, and assumed the same appearance as the parotid glands; and the tumour on the chest exhibited the same fatty degeneration. The heart was flabby and pale, as might have been expected from his emaciated condition.

I am, Sir, your's truly,

HENRY PYATT.

Nottingham, May 15th, 1852.

* * * For the morbid parts sent us—portions of the parotid gland, larynx, trachea, and liver—we feel obliged to Mr. Pyatt; though, owing to our being, unfortunately, away from home for some days at the time of their arrival, we found them in too advanced a state of decomposition to make so much out of them as we could have desired. The larynx, which was considerably ossified, exhibited, interiorly, intense (*sub-acute* we should say) inflammation, with a great deal of thickening of the lining membrane; which was likewise the case with the lining of the windpipe. The parotid gland (enormously enlarged, as the account of the case has shewn it to be) was converted into one uniform mass of fat, studded with growths, some of large size, of yellow, firm, fibrous substance, very like in aspect the *pack-wax*, or yellow elastic tissue, in the spine and other parts: hardly any of the true glandular structure being, we should say, spared conversion into one or the other substance. The liver was changed to a light clay colour; and its substance, thus generally altered, was beset

with grey semi-transparent tubercles, varying in magnitude from a large marble or walnut to a pea. Altogether, the morbid growths were of a rare and interesting character; though they were become too far changed by decomposition to admit of any very accurate or minute description of them.—ED. VET.

CHRONIC DIARRHŒA IN NEAT CATTLE.

By Mr. GEO. LEWIS.

THERE are various causes productive of chronic diarrhœa, as there are also of acute; and although the first sometimes has the latter for its cause, the effects are different in each disease, as are the causes producing them. For instance, that which would be productive of acute diarrhœa in a sound animal, would not materially affect one suffering from chronic diarrhœa.

That they are two distinct diseases may be adduced from the fact, that an animal suffering from an attack of the acute disease is quickly and successfully treated by remedies which would have no effect upon one suffering from the disease in a chronic form.

There are different kinds of this disease; of which one is intermittent, and is believed by many country people to be influenced by the moon. This has its cause in a weakened state of the liver, and its consequent susceptibility of becoming easily and unduly excited by different agents; which, being removed, the animal, to use the words of the owner, "soon gets well again."

Another kind is that to which yearlings are subject, when calves have not had proper food, or have been fed with broths with a view of saving the cow's milk. This kind of chronic diarrhœa, if improperly treated, renders the career of the animal short; but, if submitted at once to proper treatment, and there be not considerable structural derangement of the liver, there is still a favourable prospect of recovery.

To the other kind, of all the most subject to it, are cows which are "good milkers;" but why they are so I will not attempt to explain; unless it be, that there is a greater demand upon the system, and that they are more inadvertently exposed to the inclemencies of the weather, by being turned out of a protected fold or warm shed, after being milked, into a cold and unprotected field, where they become exposed to a cold, wet, or frosty atmosphere, and are allowed to remain until again wanted for the

purpose of being milked. In my experience, the disease has predominated with the first where the latter has been prastised.

One principal cause of chronic diarrhœa is the acute form neglected or improperly treated, and this frequently occurs when the latter is the case, at a time when the farrier has exhausted his store of nostrums and recipes "to stop the running out;" at a stage where, in fact, when the animal has had her constitution so impaired by her attendant that the veterinary practitioner now called in, should he succeed in propping up the falling fabric, is supposed to have achieved, not what the other failed in doing, but merely an ordinary feat, or perhaps not even that. Whereas, should he be so impolitic as to undertake the case, and not happen to succeed, it is then said, "he could not stop a scouring cow." *Experientia docet.* A person should not be precipitate in giving a decisive opinion unless he be duly acquainted with the disease in its various forms and combinations.

I am aware that there are many modifications of this disease in addition to the above; indeed, a few notes from my case-book would elucidate this remark.

I am, dear Sir,

Your's respectfully.

W. Percivall, Esq.

BEE v. HAYWARD.

CASE OF DEATH TWENTY DAYS AFTER PURCHASE.

To the Editor of "The Veterinarian."

Sir,—THE following case having been through the ordeal of one court of law, and excited considerable surprise owing to the decision of the Gloucestershire County Court Judge, trusting that your lengthy professional experience will induce you to make some comments upon it, and also that many of your able correspondents will not be backward in expressing their opinions with regard to the questions that I intend submitting to them, I have deemed it necessary to forward you an account of the same. Without trespassing longer on your valuable time and periodical space, I will proceed on with my narrative. By request of Mr. Davis (who had the loan of the horse of Mr. Bee, a highly respectable farmer at Dowdeswell), of this town, I was summoned on the 18th of June, 1851, to attend a black horse, very fat, and by no means, I considered, in first-rate working condition.

The following were the most prominent symptoms:—great dyspnœa, attended with severe coughing; full bounding quick

pulse ; loss of appetite ; maintaining standing posture ; fore legs abducted, &c. No nasal discharge ; which I mention because, on post-mortem examination, I found abscesses in the lungs, which many will, no doubt, admit to be rather singular. After careful examination, I found him to be labouring under a severe attack of acute pneumonia. My prognosis, however, as I stated to the carter at the time, was more unfavourable than usual, on account of the perceptible dead and grating sounds I found upon auscultation ; giving it as my opinion at once, that, in consequence of my patient exhibiting previous disease, and now with this acute attack upon him, he was beyond the pale of recovery, although he might probably linger a week or ten days.

I, however, lost no time in treating my patient according, I believe, to the acknowledged principles of practice, viz. copious venesection ; counter-irritation by means of blisters ; the administration of sedative, febrifuge, and slight aperient medicine : which treatment I continued daily and nightly, varying it slightly owing to alteration in the symptoms, until the animal's death, which occurred on the 20th day following that of attack, when, by means of a post-mortem examination, the undermentioned state was apparent.

The abdominal viscera had certainly undergone the change that is usual to find, after a week's illness, depending upon acute inflammatory attack of an organ that has to perform vital functions, for the liver, spleen and kidneys were in a state of ramollissement. On exposing the thoracic cavity, I found the pleura-pulmonalis adherent to the pleura-costalis in five separate places : there were three on one lung, and two on the other, by means of real organized growths, which were not to be detached by hand, but required for division the aid of the scalpel, which having accomplished, I removed the lungs : hydrothorax was not present. On further examination, the pleura-pulmonalis displayed elevations on its surface, arising from the presence of abscesses and tubercles in various stages of development. The parenchymatous structure of the lungs was highly inflamed. I have now to add, that, even with the presence of acute pneumonia, the tubercles did not appear in an inflammatory state, but were of an indolent nature ; and the pleuræ, although there were adhesions consisting of regular organized growths, and elevations of the pleura-pulmonalis by means of abscesses and tubercles, being directly underneath in different degrees of formation. There was not the slightest appearance of inflammation of that membrane present at death, no thoracic serous effusion. Taking all these circumstances into consideration, coupled with, I believe, the admitted fact, that the parenchymatous tissue of the lungs is lowly organized, and con-

sequently does not readily take on the suppurative process, I came to the conclusion that the animal had at least the existence of chronic disease three months prior to his death. I now bring this to a conclusion by putting the following queries to yourself and numerous correspondents. In what time, at the earliest (without any specific cause such as inoculation from glanders) does it require for abscesses to form in the lungs, and for organized adhesion of the pleuræ to take place, leaving no appearance of inflammation or hydrothorax? And,

I remain, Mr. Editor,

Your's faithfully,

HENRY WILLIAM HOOPER, M.R.C.V.S.

To Wm. Percivall, Esq.

Veterinary Infirmary, Cheltenham,
May 1, 1852.

P.S.—In the course of a few days I will forward you a copy of the Wilts and Gloucestershire Standard, in which paper the late trial is reported.

[The trial will be found under "Veterinary Jurisprudence."]

* * * We are of opinion that the horse died of "acute pneumonia," the disease Mr. Hooper found him to be "labouring under;" and that the "abscesses" discovered after death were the results of inflammation in the lungs contracted *after* the horse had been sent to Mr. Davis. The "adhesions," we are of opinion, from the description Mr. Hooper gives of them, might, and probably did, *pre-exist*; but, whether they did or did not, they were evidently not the cause of the horse's death.—ED. VET.

VETERINARY JURISPRUDENCE.

CIRENCESTER COUNTY COURT.

DEATH FROM PULMONARY DISEASE TWENTY DAYS AFTER PURCHASE.

Thursday, April 22.—Before J. Francillon, Esq.

Richard Bee, of Dowdeswell, *v.* *William Hayward*, of Kemble, "for that a certain horse was not sound, as promised by the defendant at the time of sale by the defendant to the plaintiff, by which the plaintiff has sustained damage to the extent of £24.4s." Mr. Bubb, instructed by Mr. G. T. Bubb, of Cheltenham, conducted the plaintiff's case, and Mr. G. F. Newmarch, of Cirencester, attended on behalf of the defendant. Mr. Bubb shortly opened the case, and then called *Thomas Wheeler*, the elder, farmer, of Winstone, who said,

he remembered selling Richard Bee, the plaintiff, a horse, in 1851; he sold the horse for Mr. Hayward, of Kemble; he warranted the horse to be sound, because he knew him to be sound; the price was twenty-five guineas.

Cross-examined by Mr. Newmarch.—He had been in the habit for many years of buying large quantities of cattle and sheep; he knew the horse ever since he was foaled up to the time of the sale; he was always capital; he lay out all the year; he was a cart horse; he was an entire horse, but he was never used as a stallion; he was used as an ordinary cart horse; he had never known any cough upon him, *nor ever known him exhibit any symptoms of disease*; he believed him to be a perfectly sound horse; he sold it on the 5th of June; he would not be certain as to the day; plaintiff said he wanted it on the morrow, and he told him he should have it; when he came home he ordered a man to go the next morning and fetch the horse to his house; plaintiff asked if he was sound, and he said he was, and knew him to be sound; plaintiff asked him to warrant the horse, and he would not swear that he did or did not; he told him he knew him to be sound; he did not volunteer a warranty; when he sent for the horse from Kemble, a distance of nine miles, to his house, he had no cough upon him, nor had he any thing to indicate unsoundness.

Re-examined by Mr. Bubb.—He was used as a cart horse, and not as a stallion; he told the plaintiff he was sound.

By His Honour.—He did not think he said he would warrant the horse sound; he did not know whether Mr. Bee asked him to warrant the horse, he did not think he did.

Richard Bee, of Dowdeswell, farmer, deposed that he recollected buying a horse on the 5th of June; he gave twenty-five guineas for him; it was an entire horse; Mr. Wheeler said it belonged to Mr. Hayward, and that the horse was sound; there was no need of a written warranty, as there were lots of witnesses; he warranted the horse to be sound; witness had the horse on the 7th of June; he kept it at his house for one night, and then sent him down to Cheltenham, to Mr. Davis; he knew Mr. Davis would take care of it; he heard that the horse was dead on the 25th of June; he heard that the horse was ill several times before he died.

Cross-examined by Mr. Newmarch.—The horse came to him fat, and looked very nicely indeed, sleek in the coat, and he did not know that he was lame; he did not know that he coughed; he sent him to Mr. Davis, who gave him plenty of good victuals and water; all Mr. Davis's horses were fat; he supposed Mr. Davis used him as one of his own horses, and did what he liked with him, and used him as a stallion; he knew Mr. Davis

travelled the horse a little way; he did not know how long he was travelled, about ten days very likely; he did not sell him to Davis; he did mean to say that Mr. Davis worked the horse, and that he was to have no part in the profit; perhaps at the end of the season he might have sold it to Mr. Davis; when he bought the horse he had no warranty, for there was plenty of witnesses; Mr. Wheeler warranted him sound; he heard Mr. Wheeler say that he warranted the horse; Mr. Wheeler sold the horse to him for Mr. Hayward; he asked Mr. Wheeler to settle the affair between them, to give him half back, or something or another; he did not see Mr. Wheeler for a long time after.

Thomas Wheeler, the elder, re-called by His Honour. The age of the horse was five years, on the 8th of May, the spring before he died.

John Davis, corn chandler, of Cheltenham, had been in the habit of keeping stallions for some time past; he remembered Mr. Bee's asking him to take care of a horse; it was in a very good condition; he used it as a stallion about four or five days, not more; he understood that the horse was sent to him to be so used; he had a stallion of his own in work at the time; he used Mr. Bee's horse to assist the other at the end of the season, as he had more than he could do with his own horse; he was not exactly aware how many mares he had, for he did not travel him himself, a man in his employ, of the name of Beekes, travelled him; Beekes, about the fourth or fifth day, complained that the horse was not well; they kept him a week after receiving him before he was used; *on the third or fourth day this complaint was made, he could not say to a day*; he let Mr. Bee know that the horse was not well, and he had a veterinary surgeon to look at him; the horse was ill about a week or ten days, and then died; the surgeon came every day, and at night occasionally; the horse was travelled the same as his own; he pretty well fed his own horses; the same man had the care of both horses; he put his own horse out of the stable and put the other in, as there was no more room; he did not know of any cause to produce illness; he saw him several times a day; the horse never laid away from home a single night, not when he was travelled.

Cross-examined by Mr. Newmarch.—He had been in the habit of keeping stallions; he gave them plenty of corn; he was a corn dealer; he kept them in the stable, and kept them pretty warm, not too hot; they had ventilating places to give them air, and keep them to a certain heat; when he first had the horse he never bled or physicked him at all; he knew how he had been kept; the other horse was not ill, but in good

health ; he had only one horse, and that was well ; he knew how many mares were accounted for ; he fed both horses well ; he saw the horse every day ; up to his illness he was in most excellent condition ; he had him a week before he used him ; about the 20th or 22d day of the month he died ; he was ill about a week ; when the horse was ill he told Mr. Bee, and he came to see him ; Mr. Hayward never saw him ; Mr. Hooper was the veterinary surgeon who attended upon him ; an examination of the horse was made by Mr. Hooper after he was dead ; he did not see the examination ; he could not tell in what state the horse was.

Re-examined by Mr. Bubb.—His own horse had been travelled before this one, and did so for some time afterwards.

By His Honour.—Horses begin to travel generally about three or four years old ; some would travel them at three, and some four years old ; they had no particular reason for keeping him a week without sending him out.

Richard Beekes, had been a servant of Mr. Davis ; he left last year ; he went to Mr. Davis's last Michaelmas twelvemonth ; he remembered this horse being sent to Mr. Davis's stables, and he took him in ; two men brought him ; he saw that he was took good care of, and fed the same as the other horse, except in giving him linseed ; *the first morning he took him out he noticed something particular about him ; he found him go stiff in the fore legs or chest ;* he remarked that he did not know whether Mr. Bee bought the horse for a sound one ; *in the course of the day he heard him cough two or three times ;* he took him out about five hours that day ; he had him out about four days and a half ; on the last day he found him fail, he could not go on with his work ; he took him the same rounds as the other horse ; he had the mares that were in use the same as their own horse, and had no other ; he told his master about it, and he said if the horse was any thing deficient he must let Mr. Bee know ; he fetched the veterinary surgeon, and he attended daily and nightly ; when the horse died he was opened, and he was by when it was done ; he noticed that he was decayed in the lungs, inflammation, or something in that way ; they did not look proper nor healthy at all.

Cross-examined by Mr. Newmarch.—They had him about a week before they travelled him ; they had some quiet mares which he tried ; he had been a little stiff when he got him out of the stable ; they went the same round perhaps two or three times ; he travelled him four days and a half ; he had about eight mares ; he could not say exactly how many he had ; some days he never had one ; he might have had four or five some days of the time ; he did not take account, for the other

horse had been over them all before; he did not appear handy; by that witness meant that he was an inexperienced horse, not up to it; when he first came he was in good condition, and he noticed nothing amiss in him.

Re-examined by Mr. Bubb.—He felt him, and his flesh was sound.

By His Honour.—He was on the last day not up to his work; he had some vetches from a farm house and gave them to him, and after chewing them he spat them out again, shewing he had lost his appetite.

Henry William Hooper, veterinary surgeon, residing at Cheltenham, remembered seeing a horse of Mr. Davis's on the 18th of June last year; when he saw him he was suffering from inflammation of the lungs, pneumonia; he thought he had a chronic disease on him as well; he attended him regularly till he died, on the 25th; he examined the horse after he was dead; his lungs were extensively diseased, and the chronic disease which he before mentioned was very evident; the pleura of the lungs and chest adhered together, but it exhibited no inflammation of that part; he came to the conclusion that the disease had existed for some time; the lungs were inflamed, and they shewed disease of long standing, tubercles in all stages of development, some going on to suppuration, some in an inflamed state, and some about to form; some had formed abscesses; it would take two or three months to arrive at such a state; he had been unsound for at least three or four months previous to the purchase, according to his opinion; the bill produced was in his hand-writing; that was his name at the bottom, as having received £2.4s. for attending the horse; when he opened the horse he found the lungs in different stages of disease; the horse died of inflammation of the lungs, and not of the abscesses; they were the predisposing cause, and that produced the inflammation; it was his opinion that, as regarded that case, these abscesses had been chronic; an abscess was a cavity containing any abnormal fluid; an abscess would exist in the lungs for months.

Cross-examined by Mr. Newmarch.—Supposing an abscess had existed for months, he could detect it by the application of the ear to the side of the horse; if he was told that Professor Dick had said that the coat would evidence the disease, he should not have much opinion of him; an abscess would sometimes cause a coat to look sleeky; the horse died of the inflammation on the lungs; he looked very little altered at the time of death, for he was so full of flesh; he breathed very quick indeed; there was an alteration in the breathing; if the horse had been

regular in his breathing that would have been an indication of the sound state of the lungs; the effect of this inflammation of the lungs would be, that he could not work; it would be impossible; he would be dead only the sooner; the suppuration would take three months to take place in such a structure as the lungs; they could detect inflammation of the pleura after death; pneumonia was acute inflammation, as in contradistinction to chronic; there must have been a chronic inflammation to produce this disease, and there had been acute inflammation at some time or other; he knew Professor Spooner, but he did not know that he held a different opinion to him; he should not be surprised to hear his opinion that this disease might be produced in three or four days, but then there would be symptoms of inflammation; there was inflammation here of the lungs but not of the pleura, the membrane which covered the lungs and chest; inflammation of the lungs and inflammation of pleura were very similar, but in the pleura there was a greater difficulty of breathing; the difference would not be much; it would not affect the coat; he thought that a horse could look well in the coat, and yet have chronic disease of the lungs; after death from inflammation of the pleura, there would be an effusion of fluid, but then there was violent inflammation generally; the horse died of an acute disease, and happened at the time to have a chronic disease which acted as a predisposing cause.

Re-examined by Mr. Bubb.—The disease had lasted for some months.

By His Honour.—The disease appeared in different places, perhaps a spot here, and then a spot there; there were two places on one side and three on the other, and those places were extending to the size of a sixpence; it had to be cut away; there was an organic change in the structure; it was a perfect adhesion; he divided it with his knife; the lungs were fixed on one side to the wall of the chest; that would not be a very great impediment to his action; supposing he (Mr. Hooper) had examined that horse and had found no pneumonia, no abscesses, no suppuration, no tubercles, no incipient tubercles, yet he should have thought him unsound; it might unfit him for work, and predispose him to inflammation; he should think there were, perhaps, eight or nine abscesses; there would be more tubercles than abscesses; when the lungs were cut open they were like marble almost, granulated.

Mr. Newmarch asked His Honour's opinion as to the warranty. He submitted that for a person to become entitled to recover upon an action of warranty, he must prove an express warranty; and that the evidence of Mr. Wheeler, a

third party, must be better than that of Bee, the plaintiff, and his evidence went to shew that there was no warranty. He wished to know whether he could not claim a nonsuit.

His Honour was inclined to think that, from what Mr. Wheeler had said over and over again, there was a warranty implied.

Mr. Newmarch then called for the defence—

William Hayward, residing at Kemble, and renting 500 acres; he had bred this horse himself; he had known him down to the time he was sold, and he never lay out a night; he was not in the best condition; he was about the strongest constitutioned horse he ever had.

Charles Ratcliffe, of Oaksey, farrier, said, he had attended Mr. Hayward's stock for the last twenty years; he knew the black horse from the time he was foaled up to the time he was sold; *during that time he had never attended that horse*, and he had never had medicine, or was ever bled; the horse was in a very good condition, and appeared in every respect healthy; his opinion as an experienced farrier was, that the horse having been kept low, his death was caused by higher feeding and warmer clothing; he did not think being used as a stallion had any thing to do with it. A horse which died, exhibiting the appearance described, could not be labouring under a chronic disease at the time he was sold, because he must have shewn symptoms of it before; while Mr. Hayward had him he never shewed symptoms of illness; he did not know whether he ever served a mare; he always carried a sleek coat.

George Thomas Brown, member of the Royal College of Veterinary Surgeons, and Professor of Veterinary Surgery at the Royal Agricultural College, was pretty well acquainted with the diseases of horses: he had heard the evidence of Mr. Hooper; judging of the symptoms which Mr. Hooper had given, he was perfectly convinced that it was an acute disease. He had many opportunities of observing similar diseases: as regards adhesion, it was a decided fact, that it commonly takes place in three days: he would quote Professors Spooner, Dick, and Percivall, in support of such opinions; tubercles could be produced in four or five days; all the changes he had heard Mr. Hooper describe may have been produced in a week; the horse having been accustomed to lie out, and never having served a mare, then suddenly placed in different circumstances, would tend to produce an acute inflammation; the fact of a horse lying out and then changing to a moderately warm stable, the circumstance of his being kept low and not having corn, and then suddenly having a considerable quantity of it, the fact also of his being taken out as a travelling horse and put to mares,

particularly being put to mares that had been served before, all this put together would tend to produce acute inflammation, particularly in the lungs, as those organs are most susceptible to it. Acute inflammation was the cause of death; there was a total absence of chronic disease; he was well satisfied that the horse having an abscess for three months must have shewn it so that they could predicate the precise place. In chronic diseases of the lungs the coat is what is called by stablemen unthrifty, and in that opinion he agreed with Professor Dick; thus, in horses which carried a good coat it would be impossible to have had this chronic inflammation.

Cross-examined by Mr. Bubb.—A symptom of inflammation of the pleura would be effusion of lymph; tubercles had been formed in three or four days; those things are scientific facts; a horse with diseased lungs in a very incipient stage might get fat and sleek; an abscess may remain a twelvemonth; it was very different with Mr. Hayward's horse, which died of a decidedly acute inflammation.

By his Honour.—He agreed with Mr. Hooper that the disease was pneumonia; he had no difficulty in deciding that, as the descriptions given by Mr. Hooper were so exceedingly clear, the adhesion was the consequence of inflammation and was not the cause of death; he had examined adhesions of long standing, and those of recent formation, and he did not believe they could be distinguished in such a case as this. If the lungs were perfectly free from disease, then the adhesions would be fairly considered chronic; as a scientific man, he thought that the horse must have been sound on the 6th of June. There were certain diseases which were attended with tubercles, and their formation was particularly quick in the lungs; he had seen supuration brought on in ten days; those tubercles were formed by the inoculation of the matter of glanders; true consumption was unknown in the horse: there was this difference, that in the human subject consumption gradually approached, and was chronic from the first; but a horse might be sound to-day, yet die in a consumption, so called, in a fortnight's time; consumption was sometimes congenital; it was common to see tubercles of all ages in one specimen; the larger abscesses would be at the lower part; brittle feet do not indicate consumption, and a fine glossy coat is a sign of health.

Mr. Newmarch said that this was his case, and then addressed His Honour, in a speech of great ability, for the defendant.

Mr. Bubb then replied.

His Honour then summed up. He would at once disencumber the case with regard to the warranty. He believed

that Mr. Wheeler had given a warranty. He would commence his judgment by quoting, "Who shall decide when doctors disagree?" It happened that a County Court Judge had to decide between the evidence of two skilful persons. They stood alike in being Members of the Royal College of Surgeons; one was a practitioner, the other a professor: the skill of the practitioner might exceed that of the professor, and the science of the professor might exceed that of the practitioner. He would take the first of them, Mr. Hooper, who deposed that he had attended the horse day after day from the 18th to the 25th of June, and he shewed day after day an inflammation of the lungs. He was trying whether the horse was sound on the 5th of June: if he found him sound, judgment would be given for the defendant; if the contrary, the plaintiff was entitled to succeed. If the plaintiff had proved an unsoundness on the 5th of June, it was unimportant whether the horse had been shot, or killed, or had continued to live. The death was important in one respect, because it gave Mr. Hooper an opportunity of looking into the chest, and he found two places of the pleura on one side and three on the other adhering closely together, as it were, a sore place having been made, nature would seek to put all matters right by the adhesion. He fancied it was like tying the lungs of the horse to the chest. The two doctors now began to differ; one said there were no signs of acute inflammation, and that it must have been an old adhesion, and the gentleman from the College did not agree with him. Mr. Hooper said, that from want of symptoms of recent inflammation the horse must have had that disease on the 5th of June. Now, that was of very great weight. The principal remark he had to make with regard to Mr. Hooper's evidence was, that it would have been better if Mr. Davis had given notice to either Mr. Wheeler or Mr. Hayward, previous to the horse's death, that he was ill; it did not detract, however, the least from Mr. Hooper's evidence. He should have thought that the case was clear on the part of Mr. Brown if he had not heard the evidence of Mr. Hooper, and Mr. Hooper would have been entitled to his judgment if it had not been for Mr. Brown. His Honour then thoroughly analysed the evidence of Mr. Brown. He considered the history of the horse, kept in a stable at night, running in an orchard in the day, kept very properly low, and parted with suddenly. He could not rid himself of all suspicion as to the cause which induced Mr. Hayward to part with the horse. He is sold on the 5th of June to Bee, and made the companion of a certain horse doing a certain work which required high feeding. The horse was put into a stable capable of ventilation, so that the horse could

be kept at a certain heat, neither too hot nor too cold. Cheltenham, that warm languor-creating place in the summer months, was a great change, at all events, from the cold hill country of Kemble. There was no appearance of cough or any thing else until it began to do its duty. One did not wonder at the stiffness about the chest, when he heard of the adhesion of the lungs to the chest. This horse was subjected to a very exciting duty, to serve mares, some of which had been served before, which would tend to produce inflammation of the lungs. It seemed to him, a certain strong horse carried away from a position where he had been kept low, doing little work, and placed in a position the very opposite to it. It must have had a powerful effect upon the body of the horse, and he was inclined to think that consumption came on at a rapid speed; that the horse, in fact, died in a galloping consumption. In preferring the evidence of Mr. Brown, he did not wish to detract from that of Mr. Hooper. His Honour then gave judgment for the defendant.

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Foreign Department.

ON THE SENSIBLE PHENOMENA OF RUMINATION.

By M. COLIN, as reported on by M. PRANGE.

THE following comprises the substance of the report of a paper on this subject, read before the National and Central Society of Veterinary Medicine of France :—

Under the heading of "Sensible Phenomena of Rumination," M. Colin includes "all the external and appreciable acts of this function, every thing, in fact, one can make out of acts in a great measure concealed, having for their object the return of the aliment from the stomach into the mouth, and its remodification within the latter cavity."

These acts are—

1st, The return or rejection of the alimentary cud.

2dly, The mastication of the cud, wherein are to be observed—the direction of the motions of the lower jaw, the rapidity or tardiness of their succession, their number and regularity.

3dly, The deglutition of the ruminated cud.

The return of the aliment into the mouth, M. Colin regards as a sort of *inverse* or *anti-peristaltic deglutition*, called by M. Flourens, *rejection*. In it are two distinct acts:—

1st, The operation by which the cud is formed, seized, and held by the cardiac orifice of the esophagus.

2dly, The transmission of the cud from the stomach into the buccal cavity.

The first of these acts it is that is involved in the greatest obscurity, owing to its being the least accessible of any of the phenomena of rumination: the last act is simple, sensible, and appreciable enough.

At every return of the aliment from the rumen to the mouth there is observable a deeper drawing of the flank than at ordinary times. In the eyes of many, this is no more than a respiratory heave—a deep inspiration; while others contend it is expiration. M. Girard, senior, thought that, through the contracted condition of the diaphragm in inspiration, as well as that of the abdominal muscles, rumination was set in action by the stomach thus having added to its own motions a powerful concurrent force. M. Colin, however, is of a different opinion. He argues, that, at the moment of repulsion, a brisk movement takes place in the flank, caused by rather a deep inspiration momentarily succeeded by a rapid expiration; a movement which must precede the arrival of the cud within the cervical portion of the esophagus. This theory reconciles the partisans both of inspiration and expiration.

Our own inquiries into this matter, however, embracing both the sensible and insensible phenomena of rumination, contradict this opinion, since nothing like it have we discovered.

The rational mode of proceeding to us has appeared to be, to class the agents of rumination into two orders,—an *extrinsic* and *intrinsic* order. In the first category we have examined into the agency of the diaphragm, the abdominal muscles, the pression of the intestinal mass, the different movements and attitudes of the body. In the second place, we have endeavoured to ascertain whether contractions of the stomach were to be felt at any part of the abdomen, and, if so, to take this into account.

When the cud has once entered the esophagus it rapidly travels through the canal, it being by the action of the fibres of the tube (described by Stenon and Peyer) that it ascends into the mouth. And in effecting this ascent of the cud, the action of the fibres is not, like that of the intestines, an undulating or vermiform movement, but alternate with every act of rumination, by an action that comes and goes like the motion of a ship, and this is continued through the entire process.

In all ruminants these operations may be demonstrated, though it is most apparent in such as are in lean condition and have long necks, such as the lama, the giraffe, and the camel; and, owing to the course of the esophagus, it is more conspicuous on the left than on the right side of the neck, though it may likewise be seen on the latter: in the dromedary it is even more visible in the lower part of the neck, along the median line.

Many authors have asserted that there takes place an elongation of the neck; that it becomes stretched out, and the head protruded forward, at the time that the aliment is passing out of the rumen into the esophagus. These conditions, however, are by no means constant, nor are they essential, since, if the neck be flexed either to the left or to the right at the time of rumination, the phenomenon continues uninterruptedly, the aliments uniformly ascending and descending. This M. Colin has not noticed.

But he was desirous of determining the quantity of alimentary matter collected in the mouth; with which intention he forcibly applied his hands upon each side of the jugular furrow in the neck, so as sharply to compress the esophagus, while, at the same time, he had the mouth opened, and thus obtained a soft mass weighing from three to four ounces. He likewise informs us, that the rejected cud was not always a globular mass consisting of solid matters exclusively; for oftentimes, cast up with the solids were parcels of herbaceous matters, along with a goodly proportion of fluid. From this M. Colin makes an arithmetical calculation. He supposes the daily ration to amount to from twenty-five to thirty pounds; and this to be dry provender, reckons the operations of rumination, the time its reproduction will occupy, calling to mind M. Lassaigne's experiments, to which his calculations bear but too distant analogy, and arrives at the conclusions, that thirty pounds of hay acquire within the stomach a weight equal to nearly 150 lbs.; and that 500 parcels, of from three to four ounces each, require, in order to be submitted to a second mastication, seven hours thirteen minutes.

Now, for this calculation, to which we have no inclination to revert, to be correct, the liquid aliments should have been taken into the account; and likewise allowance ought to be made for a notable quantity of aliment, for that especially which has been sufficiently attenuated, not being returned to the mouth. In what proportion does M. Colin make these enter into his calculation? For this we look in vain: though this detail it is which constitutes the veritable secret of rumination.

And, after all, what does such calculation prove? Hay is not

the exclusive provender of the bovine race. Their food is either dry, or very dry, or green, or pulpous, or mealy, or liquid, all which variations M. Colin's calculation has left out of consideration. And besides, were his estimate true, that an ox required more than a quarter of the day for the operation of rumination, he could no longer be employed as a substitute for the horse in certain mountainous countries where the latter is unavailable. But the fact is, that the ox's food is not often hay alone.

The author (M. Colin) confirms the fact of the aliments, after detention in the rumen being known to become *acid*, though, after return into the mouth and mastication for some seconds, they evince alkaline reaction; turmeric paper recovering its blue but very tardily.

Mastication being the most tangible act of the operation of rumination, we are enabled concerning it to speak with more confidence. M. Colin has used the word *merycique* to denote this process. The more simple treatment of the subject, however, appears to be to consider mastication as *preparatory* and *ruminatory*.

M. Colin has divided rumination into *unilateral* and its varieties, and *alternate* and its varieties. In this, however, he appears to commit a grand mistake. There may be such distinctions made in *mastication*, though we would rather call them preparatory and ruminatory, and say the grand act of rumination is an *intermediate* process. To make rumination consist in the action of the jaws is to confound the accessory with the principal act, the sensible operations with the insensible ones. Therefore, instead of saying *unilateral* and *alternate rumination*, we would say *unilateral* and *alternate MASTICATION*.

As to unilateral mastication, the jaw, like other parts of the body, is not symmetrical in its operation; its action, owing to various causes, may be more energetic on one side than on the other. Nor need we say that mastication will be prolonged by certain kinds of food, by age, &c., or that it will be comparatively tardy or rapid at one time to what it is at another, owing to similar obvious causes. It may likewise be interrupted by any thing alarming the animal or provoking his attention during the act; and whenever he finds it impossible to continue mastication, with an effort he swallows the cud. We have seen the cud re-ascend into the gullet, and no sooner become lodged there than re-descend again into the stomach; as though the contractile force which had caused its ascent so far had become expended at that spot. And we have re-produced the same phenomenon by counteracting, by vigorously seizing hold of

the esophagus with the hand, the contractile force which caused the cud to ascend, and this has been followed by its re-descent. But whereto? Into the rumen, the reticulum, or the maniplus? We can answer only by hypothesis. It is probable that such aliment as had not received sufficient attrition should fall back into the first two compartments, such parts as contained the most fluid passing into the reticulum, those the most solid into the rumen.

The deglutition of rumination is attended with a remarkable phenomenon. While it is going on, and the aliment is being subjected to the action of the jaws, a motion is perceptible along the esophagus. M. Colin asks the reason for this? In our opinion it is owing to the involuntary deglutition of liquid matters left in the back of the throat by the passage of the cud. In proof whereof comes the shortness of the interval between the commencement of mastication and this perceptible motion. At the time the aliment is re-ascending into the mouth, there is to be heard along the esophagus a guggling sort of noise: in some cases it amounts to a kind of eructation. The cud no sooner reaches the esophagus than there comes to be seen, after a slight catch (*soubresant*), a fresh cud re-ascending to the mouth with a speed nearly equal to that with which the other descended. These intermediate deglutitions going on without any cessation of mastication, we have shewn that they commence immediately the cud has entered the mouth, and are involuntary, their number varying from two to three, rarely being four. One or two happen consecutively; but it is rarely we reckon four during the mastication of the cud. If at this time the ear be applied to the left side of the pharynx, borborysm is heard at the time deglutition takes place, when the cud arrives in the mouth, at the very moment even that it is passing over the isthmus of the throat. In general, the quantity of fluid which ascends along with the cud in order to facilitate its passage and prove effective for ruminatory mastication, is considerable, especially when animals are fed on green forage or roots.

M. Colin asserts, that no more than four or five seconds elapse between the deglutition and rejection of the cud, but does not inform us how such calculation is arrived at. To properly estimate the time, we should reckon the number of seconds intervening between the cessation of mastication at the moment of voluntary deglutition, and the return of a fresh cud into the mouth to be masticated. And short as is this interval, yet is it divisible into three acts:—the descent of the chewed cud; the formation of a fresh cud; and the ascent of the last.

We can understand its being necessary that the swallowed

cud should pass first through the œsophagus to have the passage free for the new cud ; in the course of which passage it is that the latter obtains its formation. To say that the cud is *seized* and *rejected* by the œsophagus is to convey false notions. There is in operation, in all the parts concerned, a *continuity* of contraction which sets aside all notion of independent action ; which successive contractile force now and then becomes expended, as we have seen in the stoppage of the cud in the middle of the neck ; whence it again, instead of passing upward, descends. We can, as we have likewise seen, should the cud remain in arrest, by pressure, cause its re-descent ; but when once it has become sufficiently masticated, give what pressure we may, we cannot force the cud in the reverse direction, upward, towards the mouth. On the contrary, indeed, the moment such pressure is resumed, it will re-descend.

We concur with M. Colin that the cud which is returned to the mouth requires being soaked in fluid to render its passage easy ; but we do not hold with him that such fluid is furnished by the rumen or by the reticulum. It cannot come from the rumen, because fluid never exists there in any quantity. And as for the water within the receptacle, fluid there not only mechanically facilitates the displacement of the alimentary matters, but plays a most important part in the insensible operations of rumination.

A certain quantity of ingesta becomes requisite for the contraction of the rumen ; it being rendered inert either by being surcharged with aliment or through emptiness. While for the due execution of rumination is required a proportionality between the aliment taken in and the aliment under rumination. But the food may not be in excess within the rumen, and yet the organ suffer from distention, from the disengagement within it of a quantity of gas : while which state continues, rumination ceases. In a state of vacuity the rumen lacks the *point d'appui* requisite for contraction ; the same as is sometimes seen in the uterus in which no water is collected, stifling, as it were, the stimulating and provocative pains within it. The impossibility of rumination under vacuity of rumen seems to prove to us, that the abdominal muscles play but a feeble part in the act of rumination. We also think that the cessation of the act, after paralysis being effected through section of the spinal marrow in the dorsal region, in M. Flouren's experiment, was occasioned by the weakening of the constrictive force of the abdominal parietes, which, in the natural condition, operates as a counter-active to the weight of the viscera.

After taking in a sufficiency of food, the animal seeks repose for a longer or shorter time, during which are elaborating the

matters afterwards to become subjected to rumination. A silent shady retreat is sought after by the timid beast, flying from all molestation, avoiding every thing, in fact, that might interrupt comfortable rumination. As soon as the act commences, various postures are assumed, the most usual one being lying down. The camel under such circumstances will often gather his fore limbs underneath his body, and lie down upon his breast as an ostrich does. M. Colin asserts that in the stable animals will ruminate without intermission for half an hour or an hour, or longer. But this we cannot confirm; for our own part, we should say intermissions are much more frequent.

Cessation of rumination is a grave affair. In disease, in fact, if we do not succeed in re-establishing this primordial act of digestion, though it be but in an irregular manner, the consequences may be serious, while the disease itself increases in danger. And while cessation of rumination must be accounted unfavourable, its return may be hailed as favourable. These reflexions teach us that the diet in cases of sickness should neither even be unrestricted nor forbidden, since vacuity of rumen (no less than that of repletion) could not fail to injure digestion.

Imperfect as the foregoing sketch of rumination must be acknowledged to be, still, from the nature of the subject, we could hardly expect more. There are certain sensible phenomena which cannot by the imagination even be descried when we consider how digestion enters into every act of it. To give one example of this:—At the time that rumination is in its fullest activity, if the back of the hand be thrust into the left flank so as to press against the rumen, the contractions and displacements taking place in it are to be plainly felt: even the eye can discover these undulatory motions connected with rumination. And yet these motions have escaped the notice of all who have seen in the motion of the flank nothing beyond the general effect. Although in this general motion, in unity with the act of respiration, is concealed an evolution of the rumen observable by the attentive eye alone. This is a phenomenon of which we have had additional evidence afforded us by placing animals in a stable facing the north, in such position that the rays of light impinged upon them at an angle of about 45° . By this simple means, a shadow has been produced which, descending upon the transverse vertebral processes of the loins, so crossed the left flank, that, while the entire movement of it which made the shadow general shewed the act of respiration, the creeping and gradual encroachment of it upon the lower part of the flank indicated the contractions of the rumen.

It has struck us as being possible to carry our investigations

further by inquiries *per rectum*. With this view we have introduced our arm into the rectum of the cow at the time of feeding, and by carrying it towards the left flank have perceived the same movements as were visible to us in the palpitation of the flank externally. We have endeavoured to make the same inquiries during rumination, but no sooner has this been attempted than almost immediately has the act ceased. If the ear be applied to the cardiac region, extraordinary agitation is heard in the great gastric cavities: a sound becomes very distinguishable resembling a noise made by an oar splashing in the water, and that of the water afterwards dropping from it when raised. At the same time gaseous sounds are heard. If it be true that the salivary glands be remarked to be swollen at the time of rumination, it could not fail to interest us to know if such turgescence be greater during preparatory mastication than while ruminating. We have prevailed on M. Clement, *chef de service* of chemistry, to make for us an analysis of the ruminatory cud obtained through compression of the œsophagus; and the following is the result:—

Ruminatory Cud.

Water	93,21
Organic matter	5,25
Soluble alkaline salts	0,22
Insoluble salts	1,32
	100,00

By way of sequel to the above, we collected from the reticulum of a bullock, about to be slaughtered, some of the fluid contained in it, which likewise M. Clement has had the kindness to analyze.

Water of the Reticulum.

Water	93,08
Organic matter	6,46
Soluble alkaline salts	0,24
Insoluble salts	0,22
	100,00

Recueil de Méd. Vét. November and December 1851.

VETERINARY EMPIRICISM IN FRANCE.

M. LAVIQUE had a cow, ten years old, which had been ill for two days, to administer to which he sent for a man named Gougot, a weaver, living some few miles distant, who for five or six years had been practising as a veterinary surgeon, and thereby had acquired some reputation. As soon as Gougot saw the cow, which was at the time in calf, he declared that her ailments were but trifling, that she required good food in small quantities, and that he would pay her another visit the next morning. Gougot returned according to his promise, examined the cow, and, in the presence of several persons standing by, declared there was nothing amiss with her save some slight bowel disorder, connected with some little indigestion, which would all be immediately rectified by a little potion he should administer to her. On saying this, he drew from his pocket a small phial containing a liquid, of which he mixed three spoonfuls with a pint of honeyed water, and gave her as a draught. Scarcely, however, had the cow swallowed half of it when she experienced violent convulsions, throwing her head about in all directions, protruding her tongue, rolling her eyes, which had become wildly dilated, presenting altogether, in fact, every symptom of having been poisoned. All present became alarmed, and cried out to Gougot, that he was "an ignoramus!" "a man void of skill!" and had "poisoned the cow!" But he answered, "No such thing! This is nothing more than choking from the drench." On which he poured some water down the cow's throat; a remedy that served only to make her worse. Gougot pretended that all the disturbance had been occasioned by some phlegm lodging in the throat; and thrusting his arm into the mouth to remove it, he had but a short time withdrawn it before the animal expired. Before this occurred, however, finding the cow could not long survive, Gougot had quietly stolen away from the scene of trouble.

The above case was, by the proprietor of the cow (Lavique) brought before the judge (Nicolas Chamoin) of the Canton, Montur-en-Der, the complaints being,—1st, that Gougot practised publicly as a veterinary surgeon; 2dly, that for so doing he received fees the same as a veterinary surgeon who had obtained his diploma would have done; 3dly, that he kept a stock of medicine at his house, out of which he dispensed to his patients; 4thly, that it appeared, divers beasts had fallen victims to his mal-practice, presenting the same symptoms of having been poisoned as M. Lavique's cow had shewn, and that such

was particularly observed in the case of a horse belonging to M. Columbard, a farmer.

Such declarations constituting the plaintiff's case, the judge, having first had the carcass of the cow inspected by another veterinary surgeon, M. Gombauth, submitted to the Procureur of the Republic, whether there was not ground for impeachment,

1st, On the score of practising illegally and contrary to law, the healing art, as constituting a contravention of the statute of 21 germinal, year XI.

2dly. On the score of having by him a stock of drugs for sale, contrary to the same statute. In the face, however, of these remonstrances, M. Procureur of the Republic decided, there was not ground for prosecution, by reason of there being no law in existence which prohibits the practice of the veterinary art by persons not in possession of diplomas from the Government (Veterinary) School.

On which decision, the Editor of the "*Recueil*" observes—Certainly it is not our place to teach veterinary jurisprudence to M. le Procureur; though we cannot help making the remark, that if surgeons and veterinary surgeons be amenable, as they are, to justice, for want of foresight, or recollection, or skill in the practice of their respective professions, surely the man who, a weaver by trade, undertakes to practise medicine on animals, not only with audacity but with manifest injury, ought to be much more the subject of pains and penalties! If, messieurs the magistrates hold surgeons and veterinary surgeons responsible for their practice, why absolve empirics, and in cases, too, when their mal-practice causes the death of their animal patients, thereby occasioning serious damage to their employers? Since anybody out of pure caprice is permitted to turn veterinary surgeon, surely it is but fair that the amateur doctor should share responsibility with the professional veterinarian.

H. BOULEY.

..* The above case shews that the veterinary diploma, even though emanating from a *Government* School, is no more protected by law in France than it is in England. In our country, however, an action for damages for the loss of the cow would clearly have laid; but even that does not appear to have been a plea available with our neighbours across the channel.—ED. VET.

Home Department.

ON DISEASES OF FARM HORSES ARISING FROM MISMANAGEMENT.

[Continued from page 283.]

Overwork.

THE influence of work is clearly observed in the general condition of farm-horses, from the breaking to the termination of life; and much depends upon the amount of work given during the first two years whether they shall become healthy, useful animals, or unthrifty and weakly—a burden to themselves and to their owners. On well-managed farms, and where humanity and kindly treatment prevail, the working horses live a monotonous kind of life. They are sufficiently fed, and rarely overworked; and, except perhaps during the busy tillage season, or catching hay or harvest time, their employment is easy, and diseases seldom produced. It is not uncommon to see horses managed in this manner performing their daily labour at twenty years of age with apparent ease and comfort.

The average work of a plough-team is about eight hours a day, and the pace rarely exceeds a mile and a-half or two miles an hour. The severity of this labour will depend on the strength of the teams, their age, and food, as well as the nature of the soil and cultivation. It is mismanagement to make a pair of three-year-old horses perform the same amount of labour in the day as a pair of older horses that are staunch and accustomed to their work. If a pair of six-year-olds can plough an acre of light land in a day, half an acre or two-thirds of an acre are sufficient for a pair of young horses to do. It is also folly to expect a pair of horses fed in the open fields through the summer to perform their work freely through the autumnal wheat sowing; or a pair that have been fed on straw and hay and roots, with only an occasional quartern of oats during the winter, to bustle through the busy spring tillage and turnip sowings as they ought.

There is no economy in practices which compel horses to perform a greater amount of labour than either their strength can bear or their rest recruit; and hence the reason why so many are used up long before they reach what may be fairly considered as their allotted term of life. This may be estimated at fifteen years, but a very considerable number die or are destroyed before they reach half of this period.

When a horse is overworked, one of two things generally happens: he will lose flesh and become weak, or his legs will fail and he will become lame. Loss of flesh implies loss of muscular tone and weakness, which renders the body susceptible to various diseases, arising from extra exertion, improper food, exposure to cold and wet without the stables, or foul and heated atmosphere within. And here we have the common predisposing causes to catarrh, bronchitis, and distempers in young horses, and to chronic cough, diarrhœa, and general or local œdema in old ones; besides lameness of various kinds, arising from bursal enlargements of the joints, ligamentous thickenings, and ossific enlargements, which either restrict the animals' usefulness, or render them irreparably lame and worthless.

It is impossible to particularize the cases of mismanagement that occur in which horses are overworked on a farm. Some of the diseases arising therefrom, particularly cases of lameness, are seldom sudden in their effect, but of slow growth; and, notwithstanding this, it is an almost every day occurrence to hear men blame some particular event of yesterday which brought to a crisis the folly and mismanagement of months or years. Like the last feather on the camel's back, it bears the blame which belongs to the load that preceded it.

Insufficient Shelter.

The heavy cart-horse must be regarded as the product of artificial treatment. Their capacious trunks and heavy bodies have been produced by an abundance of natural and artificial herbage. Their digestive organs are large, and their functions powerful; possessing the property of quickly assimilating nourishment. This race generally have an excess of cellular tissue, and a soft temperament, with a tendency to fatten, and are incapable of enduring fatigue and privation like the smaller and more active breeds.

Within the last few years, horses of a more active description have been employed by the farmers; yet they all, more or less, possess the characteristic temperament of the heavier races; and to be reared in perfection, they must be supplied with an abundance of food, besides proper shelter and warmth, on which the body depends for its early development as food itself. The want of fulfilling these conditions is certain to incur loss from disease in almost every stage of their existence.

To commence with rearing.—Cases of mismanagement are frequent everywhere. It is no uncommon case to see cart-colts indiscriminately mixed with store beasts, brood mares, and some-

times store pigs, in large open straw-yards during the winter months. Many of these places have little or no shelter or protection from the weather—and a want of sufficient drainage is more common than otherwise: they are places, indeed, far better adapted to the manufacturing of manure than the winter lodging of cart-colts.

The food, too, that is sometimes supplied to them in these places is of very inferior character, being chiefly oaten-straw and the refuse of hay of the working horses—an abundant supply of turnips, and sometimes plenty of decayed potatoes. I have witnessed this picture many a time in farm establishments, and it is a wonder that more diseases and accidents do not occur than there really do.

The functions most active in colts are those which administer to growth, such as the organs of digestion and assimilation; and hence derangement of the digestive organs is common to colts reared in this manner—seen in the numerous cases of leanness, hidebound, general œdema, diarrhœa, worms, lice, &c.; and in this spiritless state catarrh and other disorders of the respiratory organs are commonly produced, from the influence of cold and wet and insufficient food.

A tubercular predisposition is frequently produced in colts reared in this manner; producing disease of the mesenteric glands, and mucous follicles of the small intestines, which become enlarged, and filled with unhealthy pus and tuberculous matters, arising from mal-nutrition, the consequences of poverty of blood. Bad food, rapid growth, and the vicissitudes of wet and cold are the common origin of tubercular disease.

When you see colts that have undergone two or three winters of this short-sighted system of management, having their skins rigid—sticking, as it were, to the ribs—the hair dull and dead like, and the summer's keep fail to recover them, you may form a shrewd guess as to the nature of the disease.

In old horses the lungs are the chief seat of tubercular disease, and death is the natural consequence of the disease in the quadruped as in man, and the same lesions are discovered after death. The lungs are thickly set with tubercles, which are hard, softened, or ulcerated; they are isolated, or they form caverns of various sizes, as in man. Sometimes there are portions of the lungs, more or less extensive, which are hepatized.

Farmers who mismanage their young horses in the manner described, do so from a mistaken notion of economy. They imagine that the summer's keep will compensate for the partial starvation of winter. But the growing animal requires food not only to sustain itself, but to maintain its growth. The organic materials of a living body are constantly changing; portions of

it becoming effete and taken away, whilst new parts are endowed with the property of life, and are built up in their places. The living principle is permanent, whilst the material changes, and the reparatory process cannot be maintained in its integrity unless the body be supplied with food adequate to its peculiar wants. This should contain a large supply of the phosphates, from which bone is formed, and of gluten, or fibrine, by which the muscles are enlarged. These materials are obtained from corn, bran, beans, natural and artificial grasses, and roots of various kinds. In the absence of materials of this kind, the bones do not increase in size, and the muscles are not sufficiently developed, and hence the common origin of so many ill-shaped, long-legged, light-carcassed horses, that are almost always sold at inferior prices, and frequently to persons who do not scruple to use them quickly up in work beyond their age and strength.

Hitherto we have considered the immediate operation of wet and cold arising from insufficient shelter, together with insufficient food in the rearing of colts. We will now trace these influences on older horses.

In some counties, the farmers' working horses are kept at grass from the month of May to the latter part of October, excepting during the hours of labour, or the short interval occurring in the mid-day meal, when cut grass, vetches, hay, or a small allowance of corn may be afforded them. To say nothing of this objectionable practice, as far as the loss of manure, injury to the pastures, and great expenditure of labour on the part of the horse in procuring food, it is highly injurious in other respects. The sudden transitions experienced between the exciting state of labour by day, and the cold and wet occasionally at night, weakens the circulation of the surfaces of the body, and the blood accumulating more in the internal parts, produces congestions, and hence inflammation of the mucous membranes of the air passages, causing catarrhal complaints, such as coughs, sore throats, bronchitis, besides their common consequences, as chronic cough, thick wind, and sometimes broken wind.

Fluxes of the bowels are also occasionally produced in this manner, from grazing on marshy pastures during the cold autumnal nights. Idiopathic tetanus is also produced in horses from exposure to the cold mists, fogs, and hoar frosts which prevail during the autumn, and this more commonly occurs when they are kept in marshes and unclaimed lands bordering on the sea.

I should observe, that these tetanic diseases frequently occur during the moulting season—a process that always produces a great expenditure of vital power in horses; and in this state

they are particularly susceptible to the influence of cold and moisture.

The indirect operations of cold and moisture deserve a passing notice. Suppose a horse-team, after a long and tiresome journey, instead of being taken direct to the stable, is left standing for some considerable time, exposed the while to severe winter weather, whilst the driver is sheltering and regaling himself in the wayside inn. This is no very uncommon case. Internal congestions may occur from the chill suddenly arresting the perspiration and throwing the blood inwardly, and oppressing some of the internal organs. But the chances are, the horses will escape this danger, from the healthy reaction which follows the effect of cold, provided their vital energies have not been much exhausted by excessive labour and want of food. And yet, on their arrival home to what may seem to be most comfortable quarters, they meet there with a greater enemy than either cold, or wet, or hunger—the *heated stable*; and the reaction which follows the exposure of the body in these instances frequently produces inflammation and their common result.

Farm stables are not only frequently heated to excess, in consequence of the number of its inmates, but they are foul and vitiated from gases or vapours of a positively noxious quality, engendered from the decomposition of the litter, dung, and urine, together with animal exhalation. The deleterious operation of effluvia, arising under these circumstances, may be short of a directly poisonous effect, yet it gradually undermines the health, and can only be counteracted by a more efficient means of ventilation and general cleanliness. The distinction should be drawn between a hot stable and a foul one, as the former is capable of producing one series of effects, and a foul one another. In the foul stable we have heat and impurity, arising from the same source, and operating in combination, producing not only a tendency to inflammatory diseases, but others of a more serious character.

It commonly happens that a variety of agents and circumstances may be required to act in combination to produce some diseases. Thus horses that are badly fed and over-worked by day, are very likely to be exposed to heated, vitiated stables at night; and these are the common victims of consumption, farcy, glanders, and specific ophthalmia.

A few words about farm stables.—The ceilings should never be less than ten or twelve feet. They should be well lighted, properly ventilated, and be kept dry both from above and below, with the means of perfect cleanliness at all times. The

average temperature should never exceed 62 degrees, being 36 degrees below blood heat. The advantage of keeping the atmosphere of stables considerably cooler than the body itself, consists not only in the greater amount of oxygen contained in a given bulk of air, but also in the greater force with which the foul air of respiration is carried away from the breathing passages, and a pure air supplied, in consequence of the difference of temperature maintaining a current.

These remarks on ventilation and the temperature of stables will strongly apply to hunting or other stables, it being rarely necessary to exceed 62 degrees; and if more warmth is required, it should be supplied by warm clothing.

Neglect of Incipient Disease.

The progress of many diseases in the horse is exceedingly rapid, owing to the activity of his vital powers and great vascular development, predisposing to determination of blood and sthenic, or active inflammation, and hence a knowledge of the incipient stages is a matter of paramount necessity.

In a general way, this is obtained by observing the differences between the signs of disease and the usual healthy appearances of horses, or it may be from a particular knowledge of the standard of health in any individual case.

The digestive organs frequently give the earliest notice of approaching disorder. When there is a partial loss of appetite, dulness and disinclination to work, the mouth hot and dry, and perhaps the legs and ears colder than usual, these symptoms require immediate attention, indicating, as they plainly do, the approach of fever or inflammation.

The condition of the skin and hair will also afford a true indication of the state of the health in a general way. "The horse is unhealthy in his coat" is a very common expression, and this sign should never be neglected. The hair of a healthy horse is smooth and sleek, and the skin soft and expansive. This is indicated by the touch, as in cattle. When the system is deranged, the skin loses its pliancy, its surface becomes hard and dry, and the hair, to use another common expression, "stares on end," and is rough and rusty. These symptoms accompany almost every constitutional disease, especially disorders of the digestive organs. The sympathy existing between the skin and alimentary canal is very considerable, and it follows almost in every case, that when either of these become affected, the other takes on sympathetic derangement.

The alvine excretions also furnish early signs of approaching disease. The quality of the excretions supplies symptoms, in regard to colour and consistence, which often lead to a know-

ledge of the nature of the disorder in the alimentary canal, or in the system. When the fæcal evacuations consist of undigested food, and particularly if coated with mucus, it is a certain sign of disturbance in the digestive organs. Hard, dark-coloured fæces, evacuated in small quantities, is also a sign of disordered digestion, arising from defective secretions. When the fæces are excessive in quantity or liquidity, they constitute diarrhœa; and the opposite condition, that of costiveness, is also an important symptom in many diseases, indicating defective secretion of bile.

The urinary organs likewise furnish symptoms of importance, not only of disease of the parts connected with it, but with disorders of other organs, being the chief emunctory through which effete or offending matters are discharged from the blood. The urine voided after the process of digestion is completed in a healthy horse has a pale amber colour, possessing a pungent odour; whilst that voided soon after drinking a quantity of water, is limpid and colourless. In cases of inflammation of the kidneys, the urine is sparingly discharged, high coloured, and having the elements of blood mixed with it. When the quantity of urine is small, it is usually high coloured, and this tint characterizes an inflammatory state of the system. In diabetes, the urine is nearly colourless and odourless, and discharged in immense quantities. In disordered action of the digestive organs the urine has frequently a turbid appearance, and sometimes sedimentary.

The lining membrane of the septum of the nose, as it respects its colour, also affords an indication of importance, and being immediately continuous with the membrane of the respiratory organs, if inflammation be present there, the changes will be quickly perceived. A horse in health, and at rest, will exhibit a pale, pink-coloured membrane; an increasing blush of red indicates a slight degree of inflammatory action, and an intense deep red, indicates inflammation of an acute character.

The state of respiration gives early notice of approaching disease. Quickness of breathing occurs almost simultaneously with quickness of circulation. The respiration in health, is shewn by the quiet, uniform, and scarcely perceptible motion of the flanks, at the rate of eight or ten breathings in a minute. There are few diseases in horses in which the respiratory organs remain undisturbed, and it forms a primary and leading symptom.

The state of the pulse is the surest indication of any, as to the degree of inflammatory action on the system. The heart of a healthy agricultural horse, in a state of rest, beats about 36 strokes a minute; and when it rises to 45 or 50 times,

proper precautions should be taken to check the coming disease. All these signs have their value in making known the approach of disease; and when any of them make their appearance, the horse requires more than ordinary care and watchfulness. Inattention at such times is the chief and principal cause of so many fatal cases occurring on farm establishments.

Another cause for so many losses, is, that when the sick animal is attended to, it is generally done by the blacksmith or farmer himself, and, from long experience, I can most truly vouch for this fact, that more horses are lost by the employment of ignorant pretenders to the veterinary art, and by the farmer's indiscriminate resort to the drug shop, than from the natural operation of disease itself.

Farmer's Magazine for April 1852.

ROYAL COLLEGE OF VETERINARY SURGEONS.

[From the "Era," with Additions.]

ON Monday last the Annual General Meeting of the Members of this excellent institution took place at the Freemasons' Tavern, when a very favourable report was presented of the operations and prospects of the College.

In the evening a dinner was given at the tavern by about sixty gentlemen connected with the College or interested in its progress, to Mr. W. Robinson, the President of the institution.

The Chair was occupied by T. M. Bass, Esq. M.P.; supported on the right by the guest of the evening, W. Robinson, Esq., Sir R. Peel, Bart. M.P., Wm. Bass, — Batt, and — Willington, Esq., and the Principal Veterinary Surgeon to the Army, F. C. Cherry, Esq. On the left by Sir Jas. Tyler, Rev. T. Cator, Bransby B. Cooper, T. M. Nelson, W. M. Wilkinson, Esqrs., and the Teachers of the Royal Veterinary College, Messrs. Spooner, Simonds, Morton, and Varnell: there were also present out of the London practitioners Messrs. Field, Henderson, Marshall, Gabriel, Ernes, Braby, A. Cherry, Broad, Hall, &c. And from the country Messrs. Stockley, R.A.; King, of Stanmore; Silvester, of St. Albans; Burley, of Leicester; Baker, of Sudbury; Dickens, of Kimbolton; Stanley, of Leamington; Cartledge, of Sheffield, &c. &c.

The Vice-Chairs were filled by Messrs. Stockley and Henderson.

After the usual loyal and patriotic toasts, the chairman rose

to propose the toast of the evening, expatiating in very eulogistic terms upon the many good qualities of Mr. Robinson, and upon the great benefits he had conferred upon the profession. The duty which now devolved upon him (the chairman) was an easy, and, at the same time, a difficult one. It was easy for him to say many things that would please them of their respected friend, and most difficult to satisfy himself that he was doing full justice to his character and professional abilities. He should not attempt to travel into those subtle subjects belonging to their profession, with which he was very imperfectly acquainted; it would suffice for him to give them a history of the feelings he had entertained towards the respected object of this evening's proceeding—a proceeding which was not less honourable to them than to the distinguished gentleman himself. (*Hear, hear.*) It had been his (the chairman's) fortune to be very fond of a good horse almost from the time he left his cradle, and one of those mischances which happen to those who cherish that valuable animal very early brought him acquainted with Mr. Robinson. Thirty-three years had elapsed since he had the honour of holding a commission in the same regiment with him, and they had been brother officers, during that period, under men not the least distinguished in the public life of this country, Lord Hatherton, the Earl of Harrowby, the Earl of Ellesmere, Earl Talbot, a great many Peels (*loud cheers*), and numerous other firm and devoted friends of their honourable guest. Those noblemen and gentlemen would have been happy, had circumstances permitted it, to bring their high testimony to his character and attainments. (*Hear, hear.*) He was old enough to recollect something of what their profession was thirty-five years ago. There were not many Robinsons in those days. (*Cheers.*) But he did not think it necessary for him to look back to those days in order to elevate the profession to the high standard it had now obtained throughout the world; nevertheless, he could not help contrasting the veterinary surgeons of the present day with those who performed the duties in times gone by—men who would have them believe that they had Nature's diploma to justify their practice. (*Hear.*) Thanks, however, to such gentlemen as Mr. Robinson, it had rapidly advanced to that point where its intrinsic qualities ought to place it, and hence his honourable friend had fulfilled all the responsibilities which his duty imposed upon him. He would not detain them from drinking with enthusiasm the health of their excellent friend, and shewing him how highly they appreciated the claims he had upon their regard and attention. He might truly say that such a man had indeed done his country much service; and he might add, that not only was he emi-

nently distinguished in his profession, but his social virtues were such as to win for him the esteem and goodwill of many of the highest persons in the land, including the late Sir Robert Peel, than whom no man had a more perfect knowledge of the valuable qualities of Mr. Robinson. (*Cheers*). The facts he had mentioned were quite sufficient, without any further recommendations from him, to induce them to give full expression to their heartiest feelings upon the subject. He concluded by drinking "Health and long life to their guest, Mr. Robinson."

The toast was responded to with the greatest enthusiasm, and *Mr. Robinson*, in returning thanks, said he was quite inadequate to express his feelings upon the occasion. The manner in which Mr. Bass had been so kind as to introduce the toast to their notice had almost deprived him of utterance; but still he trusted that what that gentleman had said of him had been a part and portion of his life (*cheers*), and if he had, during a very long experience in the profession of a veterinary surgeon, done any thing to advance the interests of that profession, he was more than amply rewarded by the high compliment they had this day paid him. They would excuse him if he was not at the present moment prepared to make them a speech, but he would offer them the most sincere thanks of an overflowing heart for the kind attention he had received from those who joined with him in promoting the welfare of the profession. Pleasing as it was to him to endeavour to return thanks for himself, he had a much greater pleasure in paying a tribute to the amiable qualities of their chairman, whom he had known for so many years, and who had always shewn a deep interest in the progress and welfare of veterinary science. (*Hear, hear*). He need not say how much he was beloved in his own neighbourhood; but he might be allowed the privilege of stating, that there was no man who would more readily travel out of his way to serve another. (*Cheers.*) He was quite sure they all appreciated the high character of Mr. Bass, and he should therefore, without further preface, propose to them the health of their excellent and respected chairman. (*Cheers.*)

The toast was warmly responded to, and

The Chairman, in returning thanks, said there was no man in England who he would rather should propose his health than his estimable friend, Mr. Robinson. (*Cheers.*) He hoped they would now permit him to drink the health of an honourable gentleman whose name could not but excite interest whenever it was mentioned in England. He could not pronounce the name of Peel without calling forth admiration of the deepest character (*loud and protracted cheering*)—feelings of love, of universal gratitude and respect—he might say reverence.

(*Cheers*). It was not for him on this occasion to dwell at any length upon this interesting subject, though it was not altogether inconsistent with or inapplicable to the duties of his present position, for he ought to have told them that one of the distinguished friends Mr. Robinson could boast of was the late Sir Robert Peel, who had an intimate knowledge of human character, and who never wasted his notice or bestowed his distinctions unworthily. It was, therefore, a compliment to them, which no one could more fully appreciate than Mr. Robinson, that the present Sir Robert Peel had honoured them with his company on this occasion. He was quite sure there was no one amongst them who did not feel the deepest interest in that name; and he thought there were but few, if any, who did not experience an anxiety for that name. (*Cheers*.) He could not but think that their thanks were justly due to the Right Honourable Baronet for his kindness in coming forward to assist them in paying this tribute of respect to their excellent guest, and he therefore called upon them to drink his health with great cordiality. (*Loud cheers*.)

Sir Robert Peel returned thanks, and was received with enthusiastic applause. He said it was with very considerable gratification that he had attended on the present occasion to do honour to his worthy friend. There were many in this company who, from long continued personal intercourse with Mr. Robinson, were able to bear willing testimony, of perhaps a more endearing character, to the upright, noble, and benevolent qualities of his generous heart. It was from the ins and outs of life, from an everyday's acquaintance, that the real character of a man will be truly appreciated. Much might escape the casual observer, but happily he had had for many years opportunities of enjoying the acquaintance and friendship of Mr. Robinson. Politically he was under no obligations to him, though he should be proud and happy to acknowledge it if he were; but it was on other grounds that he could bear his testimony to his sterling worth and noble character. (*Cheers*.) He was gladly honoured by the flattering manner in which his health had been drunk, and he begged to drink all their healths in return. (*Loud cheers*.)

The Chairman then proposed "The Medical Profession and the Board of Examiners."

Mr. Bransby Cooper responded, and observed, that the medical profession and that of the veterinary science were very closely assimilated, and he was unable to see that there was any difference between the two professions. The same science, the same knowledge, and the same skill were required in each, and he could truly say that if the same compliment were paid

to him which had been bestowed upon their honourable guest, he should think the labour of a long life in the pursuit of his own profession had been well repaid. (*Cheers.*)

The next toast was that of "Prosperity to the Royal College of Veterinary Surgeons."

Mr. Gabriel said, that it was with pride and pleasure he returned thanks for having his name coupled with the toast of the Royal College of Veterinary Surgeons; that he did trust the profession was now taking its proper position in society, and that it was not altogether unworthy of the great boon it had received in the obtainment of the Royal Charter of Incorporation; that both in science and in individual worth it was rapidly progressing, and that that progress had not been unnoticed and unvalued was proved by the presence among them that day of individuals who would have graced the celebration of any of the most liberal and enlightened institutions of the day; and he hoped, with this earnest of the reward before them, they should not be found unworthy of receiving it. Then, as to the Royal Veterinary College and the Professors, he must say, that it was from the labours of that institution, and that institution alone, that they had been enabled to claim the gratifying position they now occupied; that the labours of the earlier professors, though of a more general and diffused character, had laid the foundation on which the more defined courses of study at present pursued had been founded. Nor were the energies of the professors of the several branches lightly taxed to keep up with the rapid march of science in the present day; for it was not mere vague and general ideas that could be now tolerated, but well-defined principles, and their strict application to practice alone could satisfy those who had to pursue their profession, and to secure that patronage of which such honourable proof had this evening been given; and, in the sanguine belief that in their untiring exertion to secure, ay, and even to improve, the position they held they would not be found behind any profession extant, he proposed their healths.

Other toasts were successively proposed and responded to, and amongst them was that of "The Royal Veterinary College, and its Professors."

Mr. Spooner returned thanks, observing that he had been for twenty-three years a teacher in his profession, and therefore it would be believed that the deep interest he felt in the science was accompanied by a knowledge of its practical operations and usefulness. The College had been established for more than half a century; but it was not until 1843 that its members were formed into a corporate body, and from that time it had gradually advanced in public esteem and in the general scale of scho-

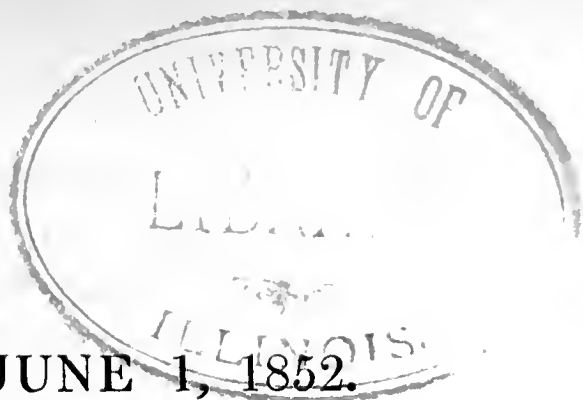
lastic institutions. He could assure the members of the Royal College of Veterinary Surgeons that the institution would at all times meet with support from the teaching of the school with which it was connected, and, on the part of his brother professors and himself, he thanked the company for the high honour they had conferred upon them. (*Cheers.*)

The health of the stewards was given in a highly eulogistic speech by Mr. Bransby Cooper.

Professor Morton being called upon to reply, said, he was altogether at a loss to know why he should have been selected from among those "older and abler" than himself to acknowledge the compliment so handsomely paid to the stewards, who were delighted to know that their efforts to give satisfaction had been crowned with such eminent success, except it was that many of them were well aware that he entertained some particular views in reference to this meeting. While the sciences have been said to hold each other by the hand, affording mutual support, he was anxious to call in the aid of the sister arts, painting and sculpture; not only to perpetuate these reunions, but to enable the profession to hand down the semblances of those who, having filled the President's chair, had done so with honour to themselves and advantage to science; that when we and they are passed to that "bourne whence no traveller returns," exultingly it may be said of them, this man by his untiring energy and zeal maintained the best interests of the College, and that man by his mild and gentlemanly demeanour and conciliating disposition reconciled conflicting parties, and did more to establish it than any who had gone before him; and such a one we possess in our present President, to do honour to whom we have met this evening. Soon we must possess "a local habitation" as well as a "name;" and there would be the fitting place to deposit these momentos. He trusted this suggestion would not only be approved of by all, but also meet with their cordial support.

The health of the ladies was then proposed by the Chairman, and responded to by Sir Robert Peel, after which the company separated.

The entertainment was in all respects well worthy of the increasing reputation of the Freemasons' Tavern, and the highest satisfaction was expressed by the guests, at the great liberality displayed throughout the evening.



THE VETERINARIAN, JUNE 1, 1852.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

THE Annual General Meeting was this year but thinly attended, and, but for the dinner by which it was succeeded, would have passed off rather tamely. There was a question, however, raised at it of no small moment to the veterinary profession; a question which one would have thought had been settled long ago, since it not only forms a prominent feature in the Charter of the Royal College, but has since had £129 expended on bringing it before Parliament; to say nothing about the exertions which have been made in its behalf by Council, and sundry members of the College within their respective spheres of practice in the country. The Royal Charter contains the following clauses on the subject:—"That owing to our said Petitioners (for the said Charter) not participating in the privileges and exemptions which have been granted to the medical and other professions, much injury has arisen to themselves in the course of practice, as well as to their employers;—That, our said Petitioners are so fully occupied in the discharge of the duties of their profession, and they are so continually at the call of the public, as to be very ill qualified to discharge, with due regard to the interests of the public, the parochial and other services which the law at present enforces upon them; and that, considering the progress already made in the advancement of the veterinary art by the superior education and attainments of veterinary practitioners, our said Petitioners humbly submit that considerable advantages would accrue to our subjects generally by enabling our said Petitioners, and others constituting the body of veterinary surgeons, to possess privileges from which they have been hitherto excluded," &c.

The debate at the meeting left no doubt whatever of the feeling on the point under discussion of those present; nor do we believe there exists any other feeling among the members of the profession in general; indeed, if there were, those who framed

and organized the charter must have taken strangely small pains in the performance of their work, not to have ascertained it; since it was clearly their duty to have done so before they ventured to incorporate such presumed *desiderata* for the profession into their charterial provisions. With these facts before us, for our own part we can see no reasonable grounds for entertaining a doubt on the desirableness of obtaining, if possible, certain "exemptions" from "the parochial and other services," as stated in the Charter; and therefore have we not only no right to find fault with those who have done their best for accomplishing such objects, albeit the sum that has been already expended in the present condition of the College finances most unquestionably is a formidable one; but, on the contrary, we are indebted to them for their laudable exertions. And should any further large sums be required to prosecute the question, it would probably rather be desirable to make a general call on the profession for such specific purpose than to make any further drain on the treasury of the Royal College—a call, if we mistake not, that would be cheerfully and readily answered.

A question having been raised as to the *legal* position in which surgeons and physicians stand in regard to "exemptions," we have procured the Act of Parliament, alluded to by Mr. Robinson, intituled "An Act for Consolidating and Amending the Laws relative to Jurors and Juries," dated 22d of June, 1825, in which we find it laid down,—

"Whereas the laws relative to the Qualification and Summoning of Jurors, and the formation of Juries in England and Wales, are very numerous and complicated, and it is expedient to consolidate and simplify the same, *and to increase the number of persons qualified to serve on juries*, and to alter the mode of striking special juries, and in some other respects to amend the said laws; be it therefore enacted by the King's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, That every Man, except as hereinafter excepted, between the ages of Twenty-one years and Sixty years, *residing in any county in England*, who shall have in his own name, or in trust for him, within the same county, Ten Pounds by the year above Reprizes, in Lands or

Tenements, whether of Freehold, Copy, &c. * * or who being a Householder, shall be rated or assessed to the Poor Rate, or to the inhabited house duty in the county of Middlesex, on a value of not less than £30, or in any other county on a value of not less than £20, or who shall occupy a house containing not less than 15 windows, shall be qualified and shall be liable to serve on juries * * in the county in which every man so qualified respectively shall reside, &c. &c.

II. Provided always, and be it further enacted, that all Peers, all Judges, all Clergyman, &c. &c.; all Attornies, Solicitors, and Proctors, &c.; all Members and Licentiates of the Royal College of Physicians in London actually practising; all Surgeons, being Members of one of the Royal Colleges of Surgeons in London, Edinburgh, or Dublin, and actually practising; all Apothecaries, certificated by the Court of Examiners, and actually practising; all Officers of his Majesty's Navy and Army on Full Pay, &c. &c., shall be and are here absolutely freed and exempted from being returned, and from serving on any Juries or Inquests whatsoever, &c. &c.

This Act, relating solely to "Jurors and Juries," has no reference whatever to parochial offices.

Touching the Report of Council, or—as the new name for it seems to be—"the Abstract," which, year by year, the transactions of the Royal College appear to furnish minishing material for, two features are this year prominent in it, the completion of the Register and the Exemption Bill. That a great and good work has been achieved in the registration of the members of a profession now grown into numerical and social import, will by nobody be denied; while the registered themselves will acknowledge a debt of gratitude due to those through whose interest and labour the work has been executed. The profession have now before them lists as accurate as circumstances will admit of their being made, not of living veterinary surgeons only, but of those departed this life as well; the aggregate number not yet being too great to admit of the retention of the latter, whose names, in many instances, recall to memory transactions and associations of a nature the minds of the living love well, ever and anon, to recur to and ruminate upon.

The "Exemption" feature of the Abstract may not present matter for gratulation. Failing, however, in the manner the "Bill" has, when we come to reflect on the cause of such failure, together with the unprepared state of the espousers of the measure to meet unexpected opposition; instead of being depressed or discomforted by it, this ought, on the contrary, to rouse us to renewed and redoubled exertions. Let members in every quarter of the country bestir themselves afresh—let them join hand in hand in petitioning and soliciting for parliamentary aid—let them enlist every member of parliament they can in the service of their cause of right and justice, and they will not, cannot, fail a second time to carry their point.

We hail the election of Professor Sewell to the Presidential Chair of the corporate college with no small exultation. The appointment reflects no less credit on the Royal College of Veterinary Surgeons than it does deserved honour on the Professor of the Royal Veterinary College. It is gratifying to behold such reciprocity of feeling and regard existing between corporation and school; while to both, at the same time that it is most creditable and cannot prove otherwise than pleasing, it promises well for a union between them which cannot fail to be conducive to the best interests of the veterinary profession at large. And what has added to our gratification on the present occasion has been the *unanimous* vote by which the election of the Professor was carried. On such an occasion we would not have a dissentient voice. The demur made—and most properly made—to the election, because the Professor had been thought or reported to have lent his sanction to certain East India veterinary appointments of persons not members of the Royal College, proved foundationless. The President entered office with clean hands, and, we firmly believe, with an honest and zealous heart; and we cordially wish him a happy and prosperous year of his occupation of the chair.

PROCEEDINGS OF THE COUNCIL OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

SPECIAL COUNCIL MEETING, MAY 12th, 1852.

Present—Messrs. BRABY, CHERRY, A. CHERRY, ERNES, GABRIEL, HENDERSON, PEECH, PERCIVALL, PRITCHARD, ROBINSON, STOCKLEY, VARNELL, WILKINSON, WITHERS; Professors MORTON, SIMONDS and SPOONER.

Mr. PRITCHARD in the Chair.

The minutes of the previous meeting were read and confirmed.

Mr. Cherry proposed the re-election of Mr. Robinson as President for the ensuing year.

After some discussion as to the necessity, or otherwise, of making any nomination at all,

Mr. Robinson said he was grateful to Mr. Cherry for proposing him as President, but he trusted that he would withdraw it, as he (Mr. Robinson) accepted office with the understanding that a successor would be appointed for the present year. He had served the office during the past year, and the Council had been kind enough to say that he had in some measure succeeded in satisfactorily performing the duties thereof; but he should feel obliged to decline the honour of serving again, even if he were elected.

Mr. Cherry's motion not being seconded, fell to the ground.

Mr. Robinson then proposed the election of Professor Sewell, as President, observing that the Council would be doing itself an honour by the election of that gentleman to the office.

Professor Morton thought a better appointment could not be made, taking into consideration the lengthened period which Professor Sewell had been connected with the Royal Veterinary College, and the high standing he had so long maintained in the profession. He was quite sure that he would do all in his power to advance the best interests of the College of Veterinary Surgeons, and would be present at the meetings of the Council as often as his health permitted him.

Mr. Gabriel trusted that the compliment about to be paid, if it was paid at all, to a gentleman so well known and generally respected as Professor Sewell, would be pretty nearly, if not quite, a unanimous one.

A ballot was then taken, which resulted in the election of Professor Sewell, with one dissident only.

The following gentlemen were then elected as Vice Presidents for the ensuing year:—

Mr. H. Pyatt, of Nottingham

Mr. J. B. Rose, of Worcester

Mr. G. Robb, of Glasgow

Mr. S. Baker, of Chelmsford

Mr. G. Watts, jun., of Dublin

Mr. J. Legrew, 13th Dragoons.

Mr. Stockley proposed the re-election of Mr. Gabriel as Secretary to the Council.

Mr. Gabriel was (by ballot) unanimously re-elected.

The Secretary gave notice of motion to alter the present arrangement with reference to signing and distributing the diplomas of the College. He said that

much inconvenience had resulted from the plan adopted by the Council at the suggestion of Mr. Wilkinson—namely, that of filling in the names of the successful candidates before the signatures of the President and two members of Council were attached. No mistake had ever occurred before the alteration was made, when the names were allowed to be filled in after the diplomas were signed; but by the present plan the members of the Council were sometimes put to considerable inconvenience, and a delay always occurred in the transmission of the documents to their owners.

Professor Simonds gave notice of motion to alter the present by-law (which notice had been suspended the required period) relating to the examination fee.

Professor Morton gave notice of motion that steps should be taken to obtain portraits or busts of the successive Presidents of the Royal College of Veterinary Surgeons.

The proceedings terminated with a vote of thanks proposed by *Professor Simonds*, and seconded by *Professor Morton*, to the Chairman.

SPECIAL COUNCIL MEETING, MAY 25.

Present—*Professor SEWELL*, the President (in the Chair); Messrs. *BAKER*, *BURLEY*, *CHERRY*, *A. CHERRY*, *DICKENS*, *HENDERSON*, *MAYER*, *PEECH*, *PERCIVALL*, *ROBINSON*, *SILVESTER*, *TURNER*, *VARNELL*, *WILKINSON*; Professors *MORTON*, *SIMONDS*, and *SPOONER*; and the SECRETARY.

The President thanked the Council for the honour conferred upon him by his election at their last meeting. He was glad to see around him so respectable a body of gentlemen connected with the institution, and he trusted that henceforward all parties would work harmoniously together. He hoped to attend the meetings as far as his health permitted, and to do all he possibly could in furtherance of the interests of the College. He hoped also that much benefit would accrue from the present amalgamation of the chartered body and the Royal Veterinary College, and that no future difficulties or collision between them would ever arise.

The minutes of the previous meeting were read and confirmed.

The Secretary read answers from Messrs. *Robb*, *Pyatt*, *G. Watts, jun.*, *Rose*, *Baker*, and *Legrew*, who were appointed Vice-Presidents at the last meeting: with the exception of *Mr. Legrew*, all these gentlemen accepted the office.

Professor Simonds moved, in pursuance of a previous notice, that the examination fee should be reduced from ten to six guineas, namely, five guineas for examination, and one guinea for admission. He said that, of late years the veterinary student was compelled to attend two full sessional courses of Lectures, which entailed upon him considerable expense; whereas formerly, six or eight months sufficed to enable him to pass his examination. Although the time of education had been extended, and additional lecturers appointed, the fee for admission had not been increased, so that a very great disproportion existed between the sum paid by the pupil for the instruction he received, and that which he paid for his examination. It had been said, and justly said, that it was necessary to raise the standard of the profession; but he was sure that would not be effected by making a money standard. Better educated members were required; and often as much education was found amongst the comparatively needy as the wealthy classes, and frequently more. The ten guinea fee, he considered, acted as a preventive to young men entering the profes-

sion, which was shewn by a reference to the numbers that had passed at the London board during late years. This year the number of pupils examined was less than those examined last year, although no reduction had taken place in the number of pupils that had entered the College as students. By taking a narrow view of the question, they would be making farriers instead of veterinary surgeons. Besides, they ought not to tax unduly the young men who were just entering the profession, and make them pay all the expenses of working the Charter which had been obtained with little or no expense to the older members; the greater part of the cost having been defrayed by the examination fees. The College, moreover, was now out of debt, and consequently did not require this money to meet the current expenses. It was also to be remembered, that the Charter gave no equivalent privileges in return.

Professor Morton briefly seconded the motion, contending that its adoption would prove a politic measure, as far as the revenue of the College was concerned.

Mr. A. Cherry thought Professor Simonds had taken a circumscribed view of the question. It was very easy for a man to pay ten guineas, and be placed in a position which it had cost others ten years to obtain. The fee was not a payment for a mere piece of paper, but for sharing the reputation which had been acquired by those who had gone before him. He was sorry to learn that the number of candidates examined in London was falling off, but he was sure that the lowering of the fee would have no effect in increasing the number. He found that the diplomas granted previous to the year 1844 very little exceeded the annual average of those granted during the eight years since. In the one case it was 36, and in the other nearly 35. If the numbers were fewer this year, he had no doubt they would be more next, so that a fair average would be kept up.

Mr. Turner opposed the motion, believing that the dignity of the profession could not be maintained without the usual fee.

Mr. Henderson warned the Council against the "cheap and nasty" system that had been carried on in Scotland, where many pupils, he said, had obtained a cheap diploma, which had not been of the slightest use to them.

Professor Spooner supported the motion. He said that many who were educated at the schools did not present themselves for examination, on account of the heavy additional expense. In the first arrangement five guineas were paid for examination, and five guineas for admission into the body corporate; but it was found that many members who passed their examination were satisfied with that honour, and declined to have another five guineas extorted from them for admission into the body politic. What were the privileges for which these young men were called upon to pay? He contended that they were not greater than they were formerly. Moreover, the proceedings of Professor Dick had recently shewn that young men could be admitted into the army and the East India Company's service without their becoming members of the Royal College of Veterinary Surgeons. Shame that it should be so! and shame, too, that there should be sitting at that board a man who could unblushingly say, "Through my aid this has been effected." It was not likely that the Scotch pupils, many of whom were poor, would like to pay ten guineas for their examination, after having gone through the required course of education, and submitted to the expenses consequent upon it. By enforcing the ten guineas fee, they would be inundating the country with the very class of men to whom Mr. Henderson had alluded.

The Secretary opposed the motion. He contended that the lowering of the fee

would not prevent persons practising without their diplomas, seeing that formerly many pupils were known to practise with the certificates of the Veterinary Medical Society, much to the injury of better educated men. The ten guineas fee had nothing to do with men who got a smattering of information at the College, and then went into the country and abused the public to the greatest extent possible. He could not give a better proof of this than the downward progress of the Edinburgh School, where, in 1844, 41 pupils passed out of 48, and during the past year 23 only had passed, out of 25, a falling off of nearly one half, notwithstanding the reduction of the fee to one guinea.

Mr. Robinson said, that when a pupil passed his examination he was, without receiving any diploma at all, really a member of the body corporate. If therefore, any alteration were made, it would be better to make the examination fee six guineas, and have no fee for admission.

Mr. Mayer thought ten guineas not too much for examination and admission as a member of the body corporate. He did not think the pupils were now put to any more expense than formerly; for in his time he had to pay £10 or £15 more than the usual College fee to obtain information in order to qualify himself for his examination. It is true, that this additional information was now obtained at the Royal Veterinary College, without any extra payment.

Mr. Dickens asked if the College of Surgeons ever wanted candidates, because the fee of admission was twenty-two guineas.

Mr. Burley opposed the motion. If the fee was lowered, a class of men would be produced similar to those emanating from the Scotch school. If a pupil declined to pay his ten guineas, he ought not to come into the profession. Such men were not wanted.

Mr. Cherry thought the dignity of the profession was maintained by the instructions derived from the professors who taught the art, and not by the mere payment of an examination fee.

Professor Simonds having briefly replied, a ballot was taken, when there appeared, against the motion 10; for the motion 7: it was consequently lost.

On the question of a Registrar being appointed,

Mr. Mayer proposed that the duties of that office should be performed by the Secretary during the ensuing year.

Professor Morton had no desire unnecessarily to increase the duties of their Secretary, nevertheless he seconded the motion, because it was well known there was now comparatively little to be done.

The Secretary having expressed his willingness to undertake the duties of the office, that gentleman was unanimously elected.

On the motion of *Mr. Wilkinson*, seconded by *Mr. Peech*, it was unanimously resolved, that a *douceur* of £25 be presented to *Mr. A. Cherry*, the late Registrar, as a testimonial of the manner in which he had performed the duties of his office.

Professor Simonds proposed that an allowance of £125 be placed at the disposal of the Secretary for the present year; being an increase of £25 over the sum voted last year. He was sure that the Council felt they could not have a more efficient Secretary than *Mr. Gabriel*, and that he had been hitherto very badly paid.

The Secretary thought the funds of the College did not admit of the proposed increase, and expressed a wish, with thanks to *Professor Simonds* for his motion, that the allowance should at present, at least, remain as heretofore.

On the motion of *Mr. Wilkinson*, seconded by *Mr. Mayer*, it was then resolved that £100 be placed at the disposal of the Secretary.

The Secretary, in behalf of *Mr. Ernes*, who was absent, proposed a return to the original plan of signing the diplomas, as explained by him at the last meeting.

Mr. A. Cherry seconded the motion.

Professor Spooner said he saw no objection to the proposal, provided the diplomas were signed by the respective examiners, and delivered by the Chairman of the Board to the parties entitled to them.

The Secretary assented to *Professor Spooner's* proposed addition to the motion.

Professor Simonds expressed a doubt as to the legality of a diploma signed by the President, before the insertion of the name of the successful candidate.

Mr. Wilkinson objected to the motion upon similar grounds.

The motion was then put and carried.

Professor Morton moved "That a Committee be appointed to consider the desirability of obtaining some memorial of the past Presidents of the College." He thought it very desirable that either busts or portraits of those gentlemen should be obtained, so that the semblances of those may be handed down to posterity by whom the interests of the College had been promoted.

Mr. Mayer seconded the motion.

Mr. A. Cherry said he should be glad privately to co-operate in the furtherance of the object, but thought it was not one for the Council to entertain.

After a short conversation upon the subject, the motion was passed, *nem. con.* and the following Committee appointed:—Messrs. Field, Spooner, Wilkinson, Simonds, Mayer, Baker, Varnell, Gabriel, and Morton; Professors Simonds and Morton, with *Mr. Gabriel*, being nominated by the President as a Committee of revision, the proceedings terminated.

J. B. SIMONDS

W. J. T. MORTON

E. N. GABRIEL.

DIPLOMAS GRANTED.

NAMES of Pupils from the Royal Veterinary College who passed their Examinations and received Diplomas as Members of the Royal College of Veterinary Surgeons, 19th May, 1852.

Darlington	Broughton
Murray	Bensley
Wilkinson	Dixon
Farras	McMahon.

MISCELLANEA.

GLANDERS IN HORSES—IMPORTANT DISCOVERY.

To the present time no veterinary surgeon in the United Kingdom, or of the continent of Europe, has found a specific for the direful scourge of glanders; and the horses of her Majesty's

cavalry regiments, so condemned, are consigned to the slaughter-house now, as they were sixty years ago, previously to veterinary surgery becoming a science in this country. At the large Veterinary College at Alfort, a discovery has just been made which, if it is to be relied on, is of the highest importance to all owners of horses. The *Recueil de Médecine Vétérinaire de Pratique* states that a horse having a chronic affection of the glanders was subjected to the influence of *aconite*. This exotic plant is better known in this country as Monk's Hood, or Wolf's Bane (*Aconitum Napellus*), and from its bearing an ornamental flower, is now to be met with in almost every garden. It has long been notorious as a deadly poison; it was given to the horse alluded to in small doses, commencing with two drachms of the leaves of the plant, and gradually increased for nearly twelve days. The experiment, it is added, proved successful. A talented English veterinary surgeon observes on this subject:—"The achievement of the cure of glanders is destined to become the work of a national undertaking. The experience of the last half century has convinced all who are redolent on the subject, that individual exertion, enterprise, and even property, to a considerable amount—all have been embarked in vain." He submits to the Legislature the propriety of erecting a National Animal Infirmary, in some insulated locality, not remote from the metropolis, for the sole purpose of experimental treatment, unique operations, &c. The condemned horses of the cavalry to be the first inmates, instead of being shot.

ENGLISH CAVALRY HORSES FOR FRANCE.

SEVERAL French contractors have come over to this country from Paris and other parts of France for the purpose of entering into a contract with the English breeders of horses to supply a large number of horses for remounting the different cavalry regiments in France, artillery and heavy cavalry (cuirassiers, carbiniers, and heavy dragoons), light cavalry, lancers, hussars, and chasseurs, wagon train, &c. The price stipulated by the Minister of War is not to exceed £32 to £35 for heavy cavalry, and from £22 to £26 for light cavalry; chargers for the officers not to exceed £36. The supplies will be chiefly from Yorkshire and the northern counties, renowned for the breeding of horses for the British cavalry regiments.

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A FEW OBSERVATIONS ON THE MORBID CHANGES
THE LUNGS UNDERGO IN PNEUMONIA.

By WILLIAM PERCIVALL, M.R.C.S., and V.S.

ADVERTING to the case of the trial—Bee *v.* Hayward—a full account of which was given in THE VETERINARIAN for June, I would submit a few pathological observations, grounded on results of practice, with the view of coming to some conclusions which might serve to reconcile, or rather, it would be hoped, to anticipate, and so prevent, variable and contradictory professional allegations apt to be made in evidence in courts of judicature, in no mean degree discreditable to us as a body of medical men practising under the title of veterinary surgeons. I need make no particular allusion to the case just mentioned, because trials of the sort are too numerous on record, and still are too frequently occurring, to render it necessary to make any special reference, save it be for the purpose of the elucidation or confirmation of any thing I may advance in opposition to opinions by too many, it is to be apprehended, at the present day entertained.

Pleurisy and pneumonia must be regarded as inflammations correlative to that degree that independent existence, such as would warrant the application of the epithet *pure* to either, is hardly regarded as consistent with what is observed in human medicine; while in hippiatric medicine, it is notoriously still less so. Veterinary surgeons are warranted in giving almost to every case the name of *pleuro-pneumonia*, it being either a mixed pleurisy or a mixed pneumonia; notwithstanding, in every case one disease will be found to take the lead of the other; or, in other words, bear the brunt of inflammatory action in preference to the other: so that in the one case we may fairly pronounce the horse to have died of pleurisy; while in the other we come as fairly to the conclusion that the cause of dissolution has been pneumonia.

Nothing can be more vexatious for both parties concerned in a horse transaction, seller as well as buyer, than to experience

the transfer of a horse, to all and every appearance and examination, sound and in perfect health, who that day week, or fortnight, or three weeks, or within some such short period, is on his way, a lifeless carcass in a knacker's cart, to the slaughter-house. The purchaser, in the midst of hopes and expectations raised in his mind upon the acquisition of his "new horse," becomes mortified with disappointment; while the vendor is made hardly less so, though the latter's regret, it is possible, may not so much proceed from sympathy with the buyer as from the apprehension of pecuniarily suffering through law suit, or otherwise, for the sad catastrophe: albeit, in the majority of cases, extreme injustice is apt to be done to the seller from the erroneous construction, on the part of men who know little or nothing about such matters, put on the case should it come to be matter of judicial litigation. Though there be no relevancy, in a scientific point of view, in the anecdote I am going to relate, yet for the sake of imparting to the inexperienced a little worldly knowledge, in comparison with which, in the language of Sir Giles Overreach, "all other knowledge I value not a straw," let it for this once pass. An intimate friend of mine had sold a five-year-old horse to a gentleman, an acquaintance of both his and mine, for which he had received a cheque. Meeting my friend a day or two afterwards, I said, "Well! have you sold your horse?"—"Yes," was the reply, and got the money too for it!—at least, I have got *a cheque*." "Oh! a cheque, have you? *That* is not money." No; on second consideration, I don't think it is—I will therefore go to-day, and get it *cash*ed." Two days after this he received a letter to say the horse was "taken unwell." Within a fortnight from the time of sale, the horse died of pneumonia. The purchaser immediately wrote to my friend to know, "what allowance" would be made for this unfortunate event. The answer was, "None." It was, probably, lucky the cheque had been converted into cash.

Every veterinary practitioner, of any standing in practice, well knows in what surprisingly short periods of time effusions from the pleural surfaces into the cavity of the chest take place: examination of the horse dead, even in so short a time as three or four days after purchase, not infrequently presenting collections of water and shreds of coagulable lymph, which to the eyes of those unacquainted with medical matters assume so formidable an aspect that the case is set down at once as being a "rotten" one, or, in other words, as one the *seeds* of which were doubtlessly sown even some considerable time before the sale. This is a case too notorious among veterinarians to need any dilatation or elucidation here: it is the preliminary changes apt to succeed this, or which may occur independently of active

pleural disease, to which I would for a moment call the attention of practitioners who seem to be at variance in their opinions as to the duration of time required for such changes to take place.

It is hardly necessary for me to premise, that in the examination of lung in search of the cause of dissolution, distinctions are to be made, no less in point of the duration of time in which such transformations may occur than as to their nature, between *congestion, reddening or discolourization, softening, condensation, hepatization, tubercularization, &c.* It is not my intention, however, within the limited bounds to which this paper must be confined, to enter into any detailed pathological accounts of these several pulmonary changes; but simply to make a few observations touching the more remote of these consequences, not so much as to their nature as to the period of time required for their formation.

In congestion—a state distinct from that of inflammation—the pulmonary trunks and their branches are gorged with blood to that extent that the lung itself has the appearance of a mass of coagulated blood, the colour of which has often approached so near black as to be pronounced *mortified*. Whereas, in pneumonia, it is in the capillary vessels of the parenchymatous substance that engorgement takes place, with more or less reddening, which has no sooner reached a certain height than stagnation results, and there ensues after a time a mingling of the red particles with the serum of the blood, with more or less solution of the latter; to this exosmosis follows, and the morbid condition known by the name of *sanguineous infiltration* is the result. Next comes blocking-up of the already compressed air-cells by lymph effused into them from the capillaries, gradually producing solidity of them and all around them, until the lung has become converted into a solid, though rather soft than firm, mass of substance, destitute of all porosity save what it retains from being traversed by the unclosed large ramifications of the bronchi and pulmonary vessels. This is the condition of lung we call—from its resemblance to liver—*hepatization*, which being interpreted means *red softening*. The augmentation of weight, as well as change of structure, occasioned in the lung so affected, is almost beyond the conception of any one save him who has handled viscera of the kind. This solidity, however, in time gives way to further softening and further changes. It turns speckled, altered in colour in circular patches, becomes what is called *granulated*. This constitutes the tubercle resulting from infiltration, which from the greyish or reddish or yellowish aspect it puts on, gives the cut surface of the lung the marbled appearance so characteristic of the changes still to follow. For now sup-

puration commences, beginning in the hitherto blocked-up air-cells. The granules or tubercles also now become soft, like soft cheese or cream, and partially or imperfectly suppurate; or else abscesses form within their interspaces, in the softened solidified parenchyma, the suppurating air-cells operating as sorts of centres from which maturation extends; and this process, once established, becomes a rapid one. Indeed, when we come to consider what horses are the more common subjects of pneumonia, horses young and vigorous, and in high, or at all events plethoric, condition, under circumstances of much preternatural excitement, we have no reason to express surprise at the rapidity with which pleural and pulmonary diseases in particular, of all descriptions, are apt to run their course. The following table of abstracts of cases, recorded at length in my Sick Register, will illustrate this:—

Letter and No. of Horse.	Disease.	Length of time under Treatment.	Autopsy.
Troop horse, A 15....	Pneumonia.....	8 days..	Hepatization of lung, coffee-coloured frothy fluid issuing from the bronchial tubes.
Ditto, E 4....	Pleuro-pneumonia	10 days..	Adhesions, hydrothorax, blackening and hepatization of lung.
Ditto, E 24....	Pleuro-pneumonia	10 days..	Pleura coated with lymph, lungs hepatized, the granular (or tuberculous) change commenced.
Ditto, A 19....	Pleuro-pneumonia	10 days..	Hepatization and granular formations in their incipient stages.
Officer's horse	Pleuro-pneumonia	14 days..	Reddening and hepatization, granular tubercles, some turned white.
Troop horse, E 28....	Pneumonia.....	18 days..	Intense inflammation, approximating to mortification of pleura, adhesions, water, granular tubercles, collections of pus.
	Pleuro-pneumonia		
Ditto, H 1....	Pneumonia.....	25 days..	Both lungs in a state of granular tubercle.

The foregoing abstracts of cases constitute, as far as they go, a body of facts from which we may hazard to make deductions of sufficient accuracy to meet all but extraordinary or incidental occurrences. The ordinary subject of pneumonia or pleuropneumonia is the horse at a period of life when his vascular system is in its fullest force of activity, which, in most instances, is increased by stimulating diet, stimulating stable atmosphere, and perhaps exertion of body as well. Seeing, then, the fire of inflammation lighted up in a constitution so favourable to its progress, and seeing the flame thus fanned within it by various agents from without, need we feel any surprise at the rapidity with which it hastens through its various stages, to the production of the most disastrous consequences. Should the violence and intensity of pleuritic or pleuro-pulmonic inflammation not carry the animal off in the first week of his illness, the obliteration, through hepatization, of the air-cells and extreme ramifications of the bronchi, is likely to do so, if extensive, in the course of the second week ; and should the case run into the third, or be protracted to the fourth week, we may expect to find, at our autopsial examination, tubercles of the granular class, with abscesses of the cells, as well as the white cheesy conversion of such tubercles which may be regarded as suppuration of them.

General as these observations are intended to be, and exclusively applicable as they manifestly are to acute disease in young and vigorous subjects, without the pale of this range they have, of course, no reference. Very many exceptions are to be met with in practice, owing to modification of disease, difference of subject, of circumstances, &c. ; but these nowise invalidate the general facts : facts, as it has been seen, deduced from results in practice which do not admit of being gainsaid. The subjects being horses under the immediate cognizance, as well in health as in disease, of myself, and being so situated that the first signs or indications of ill health could not but at once reach my ears, there is no room for doubt or suspicion as to the date of commencement of the disease being all but synchronous with that of being taken "under treatment," no more than that the disease constituted a primary attack.

TETANUS IN HORSES IN INDIA.

By T. HURFORD, 15th King's Hussars.

To the Editor of "The Veterinarian."

My dear Sir,—I regret I cannot give you any cases of tetanus arising from castration: they are (not?) very rare occurrences; but, unfortunately, I have not all my books in this country.

I castrated a horse of my own, an Arab, four years old. About three weeks afterwards, when the wound was perfectly healed, I ordered him to be walked out with harness on, he being intended for draught. In about ten minutes he was brought out, the horse-keeper sending me word, that he would not walk. On going out, I found him *tetanic*. He was put under treatment immediately, but he died on, I think, the fourth day. He was a bad patient. In the treatment of tetanus a good patient is half the battle: some horses will assist you, and hold their heads so as to take the medicine easily; while others fight against you, increasing the spasm so fearfully that I think they are better left alone. One horse I remember well, before the attack of tetanus, was so vicious that it was hardly safe to go near him; and yet during his illness he was the best patient I ever had. The first use, however, he made of his returning strength, was to kick his owner very severely: his case is G. 742.

Although I have been tolerably fortunate in *helping Nature* through many cases of tetanus, I cannot make up my mind as to what medicine I place most reliance on. I have sometimes thought that, if the bowels were well operated on by purging medicine, the horse was safe; but no! I have tried opium, belladonna, camphor, cannabis indica, and all at times with good effect; at other times with none. Blisters are, I think, worse than useless; they make a horse sore and uncomfortable, without, in my opinion, producing any good effect. One thing, I am sure, is a most essential ingredient in the treatment, and that is, *perfect quiet*. Without it, no treatment will avail. I send you the only cases I can find: if they are of no use to you, you will tear them up; they have at least served to recall to me some most pleasurable feelings; for I have felt more gratification in the successful treatment of this very unmanageable disease than in that of any other. Though the pain may appear to be more acute in many disorders, the animal's *look*, his every motion, convey to you the appearance—if the expression may be allowed—of mental as well as bodily suffering, which is not, I believe, shewn in any other disease, and to feel

that almost every minute you are conquering this, and relieving his sufferings, is a full reward for any trouble you may have taken.

CASES OF TETANUS.

July 9th, 1846.—G. 586. Tetanus. Admitted about 5.30 A.M., having been found unable to move, that is, to be ridden to field day. V. S. He would not bear more than lbs. viij. R Croton. far. gr. xxv, and put on tongue; blister back, neck, and loins.

10th.—Easy; tries to eat. V.S. lbs. xij. R Croton. gr. xx. 5 P.M. purging; repeat blister.

11th.—Much as yesterday.

12th.—Tolerably tranquil. R Opii 3j in injection.

13th.—R Opii 3j, camphoræ 3ij, in two injections. He appears easy, and tries to eat; let him have guinea grass, and gram water for drink; bathe neck and back with warm water, and clothe well.

14th.—Much the same. R Opii 3j, camphoræ 3ij, in two injections.

15th.—Better; evacuations soft.

16th.—Still improving.

17th.—Appetite returning; he calls for his food, and can open his jaws.

19th.—Try cold water sheet, and give cold water injections twice a day.

20th.—Repeat. *21st.*—Repeat: the tail is still extended; he feeds well.

22d and 23d.—Repeat cold water.

24th.—Stop the cold water, and give full feed.

August 1st.—Continues thriving.

11th.—Discharged well.

CASE II.

June 1st.—G. 742. Tetanus. Admitted about 5 A.M. V.S. lbs. xij. R Aloës 3viiij, camphoræ 3j, opii 3ij, in two balls. Remove shoes.

2d.—A.M. R Aloës 3iv, camph. 3ss.—4 P.M. R Croton. farinæ gr. xx.—8 P.M. R Aloes 3iv, croton. far. gr. xx, opii 3ss. A little hard fæces passed.

3d.—Fæces a little softened. R Aloes 3iv, opii 3ss, croton. far. 3j.—4 P.M. Water, 2 quarts, sodæ sulph. 3ij in injection.—7 P.M. slight tendency to purging.

4th.—5. A.M. R Aloës 3iv, opii, camph. āā 3ss.—8 A.M. Purging freely; can move jaws a little, and tries to eat grass;

let him have gram water to drink.—5 P.M. R Ext. belladonnæ 3j, opii, camph. ā ā 3ss.—8.30 P.M. better; is inclined to feed.

5th.—Purging freely, and feeding; jaws tolerably free, pulse tranquil.—1 P.M. R Camph. 3j, ext. belladonnæ 3j, opii 3ss.

6th.—Repeat last ball; is doing well.—5 P.M. R Opii 3j, camph. 3ss.

7th.—Still purged a little; feeds, and is very tranquil.

8th.—Purging. R Opii 3j, camph. 3ss.

9th.—Dung set a little; feeding.

11th.—Fæces pultaceous; doing well; moves his jaws freely; eats and drinks, but he is *very* weak.

13th.—Half feed, and as much green grass as he likes.

14th, 15th, 16th, 17th.—Doing very well.

18th.—Lay down for first time.

20th.—He has refused his feed; he is breathing quickly; fæces foul. R Ant. tart. 3ij, camph. 3j, in three balls.—11 A.M. R Ext. belladonnæ 3j.—5 P.M. R Calomel 3iss, in three balls, one now, one in the morning, and one to-morrow evening.

21st.—He is better. R Aloës 3ivss, with the calomel.

22d.—Dung slightly softened. He did very well till

July 2d.—The hair begins to come off all over his body. R Aloës 3v.

10th.—Let him be ridden gently.

14th.—The scrotum is much swollen, and it extends to the chest. R Aloes, gentianæ, et zingib. ā ā 3j, cantharidis gr. v every morning.

24th.—Discharged, well.

CASE III.

September 28th.—G. 1211. Tetanus. This horse was admitted on 10th inst. for a wound in his foot, and discharged well on the 23d; re-admitted this morning about 8. V.S. lbs. xvij; blister back, pare out foot to blood, and poultice. R Aloës 3v, calomel 3j, croton. gr. xv in ball, and opii et camph. ā ā 3j in another; injections.—5 P.M. R Aloës 3v, opii, camphoræ, et calomel ā ā 3j in ball; and in injections, aloës 3v, aquæ two quarts.

29th.—No motion.—R Aloes 3v, calomel 3ss; and in injections, aloes 3v.—5 P.M. R Aloes 3v, calomel 3j, croton. gr. xv.

30th.—Six A.M. Repeat last ball, and R opii, camph. ā ā 3j.—1 P.M. a little dung, slightly softened; attempts to feed, and is tranquil. R Aloes 3v, croton. far. gr. xxv.—5 P. M. Slight purging since last ball.

October 1st. No more purging; breathing disturbed. R Aloes 3v, calomel 3j, croton. gr. xv, opii, ext. belladon. ā ā 3iss,

camphoræ 3ss; continue injections.—5 P.M. more tranquil, but cannot feed.

2*d.*—No purging. R Aloës 3v, calomel 3j, croton. gr. xv. —Mid-day, medicine acting.—5 P.M. R Opii et camph. ā ā 3j.

3*d.*—Tranquil; bowels opened during the night; rigidity of muscles lessened. R Ext. cannabis indica gr. x.—11.30 A.M. much easier; feeds; bowels opened.—5 P.M. R Ext. cannabis gr. xv.; purging; eats his grass.

4*th.*—6 A.M. R Ext. cannabis 3j in ball; jaws move more; purging, and is tranquil.

5*th.*—Doing well; bowels open.

6*th.*—He has eaten a mash; fæces pultaceous.

7*th.*—Feeds well; muscles still rigid. R Ext. cannabis* 3j, in ball.

8*th.*—Bowels regular. R Ext. cannabis gr. xxv, in ball.

9*th* and 10*th.*—Doing well.

11*th.*—Coughs; breathing disturbed. Seton throat, and blister sides of chest. R Aloës, ant. tart., camph. āā 3j, digitalis gr. xx, daily.

14*th.*—Cough is better; feeds heartily.

21*st.*—Stop balls.

22*d.*—Physic.

24*th.*—Half feed.

28*th.*—Full feed and exercise.

November 18*th.*—Discharged, well.

CASE IV.

A. 1179. Tetanus. This horse had been under treatment for abscess on the withers, which had been freely opened; setons inserted, &c., and he appeared to be doing very well, when a fresh abscess formed, which on the 8th of February was opened.

9*th.*—He is attacked with tetanus. V.S. fls. xvj. R Aloës 3vj, calomel 3j, zingib. 3j. Injections; change the setons. Strong solution of nitrate of silver to wound, and blister round the edges.—5 P.M. R Croton. far. gr. xxv.—9 P.M. Repeat.

10*th.* 6 A.M. R Ext. cannabis gr. xv, and in injection aloës 3ij, opii 3j.—10 A.M. R Ext. cannabis gr. xv. Repeat injections every two hours.—5 P.M. Ol. crotonis M. xxx.—9 P.M. Fæces soft.

11*th.* 6 A.M. R Ext. cannabis gr. xxv, opii 3j, and in each injection aloës 3j.

12*th.* 8 A.M. R Ext. cannabis gr. xx, and in injection ext.

* Commonly called *Bangue*. It is said to be narcotic and astringent. Perhaps Mr. Hurford could give us some interesting, if not useful, information respecting this and other Indian remedies.

cannabis gr. xxv, opii ʒss, aloës ʒij to be used during the day. The jaws are firmly set, but he sucks some nourishment. Continue solut. argent. nit. to withers.

13th.—℞ Ol. croton. M. xxv. Give injections of rice water. —2 P.M. ℞ Ext. cannabis gr. xxv, opii ʒss, in one injection. —5 P.M. he has drunk freely of rice water, and is no worse.

14th, 6 A.M. better; drinks freely; dress wound as usual.

15th.—Doing well. Continue injections; dung soft.

16th and 17th.—Improving; he has picked a small quantity of grass, and is altogether better.

18th.—2.30 A.M. called to see my patient. I found him down. The sentry heard him knocking about, and, looking in, found him on the ground. I continued my treatment through the day without success: for on the

19th, 3 A.M. he died. I have no hesitation in saying this horse was frightened to death. I found the hoofs round the coronets, and the heels, *eaten away by rats*, which infest the place; and I have no doubt whatever, that the numbers swarming and nibbling round his feet excited him fatally. He was doing well, and when I left him, at 9 P.M., I had every hope of a good case.

TREATMENT OF QUITTOR.

By JOHN BROWN, Veterinary Surgeon, London.

To the Editor of "The Veterinarian."

Dear Sir,—IF you should deem the following remarks on quittor of sufficient importance to insert in your valuable periodical, you are quite welcome to them.

Quittor has generally been deemed to be a very intractable disease; and when we come to consider the various tissues entering into the composition of the parts of the leg and foot wherein this disease usually occurs, the low vitality in some of them, together with their indisposition to take on healthy action after disease has taken place, we have no occasion to feel surprised. I have seen them in a state of disease continue for months in sluggish action; and as soon as one sinus has healed up, another has appeared, and thus has the disease gone on until either the patience of the owner has been exhausted or the horse has sunk from pain under the disease.

Nevertheless, I believe quittor to be readily cured by the simple yet efficient treatment I am about to describe. In the first place, I have the shoe taken off, and (supposing the disease to be situated at the posterior part of the foot or heel) I cut away that part of the hoof, so that there shall be no pressure

between it and the shoe; and then tack on a light bar-shoe. Next, I have the upper part of the crust, round the diseased part, rasped as thin as possible, and the hair trimmed off close round the coronet. And now I inject all the sinuses with a solution of sulphate of zinc, in the proportion of one ounce of the sulphate of zinc to four ounces of water; after which I apply a bandage, evenly and firmly, round the coronet, which by keeping the sinuses closer together disposes them to heal sooner, as well as prevents others from forming. The size of the bandage I use is about three yards long and three inches and a half wide. This I follow up every morning, for about four or five days. Afterwards, I use a warm solution of sulphate of copper, and bathe the parts externally, and apply bandages as before. I persevere with this treatment for about three weeks, re-applying the bandages every morning, and using the solution of sulphate of copper: the one for promoting absorption, the other for preventing any unhealthy action taking place, and at the same time destroying any unhealthy disposition there may remain in the parts. At the expiration of this time I have generally found all the sinuses healed up, and the external parts as level and even as the other leg.

I am, dear Sir,

Your's truly.

23, Whitefriars-street, June 9th, 1852.

RUPTURE OF THE STOMACH, BOWELS, &c.

By J. HORSBURGH, M.R.C.V.S., Dalkeith.

To the Editor of "The Veterinarian."

Sir,—THE treatment of horses used for agricultural purposes comes for the most part under the care of the country veterinary surgeon. Their diseases are different, or at least they are affected with diseases to which horses used in towns are not so subject. The nature of their work, their feeding, their exposure to all sorts of weather, and their stable management, no doubt, are the causes of this difference. And so well are these facts known to farmers, that some years ago a prize was offered by the Highland and Agricultural Society of Scotland for the best essay on the causes producing in horses employed in agriculture more diseases of the stomach and bowels than those employed at road work usually experience. This, many of us here thought would have brought out something useful to farmers, somethin that wou d have considerably altered their feeding

and stable management, as well as something of credit to the numerous and well qualified body of veterinary surgeons with which the country is now supplied. I know for certain that essays on the subject were handed in by some; but whether the judges of these essays were entirely ignorant of the subject they were appointed to examine into, or whether these judges were veterinary surgeons in towns, whose particular interest it was to make their employers believe that none but they had any knowledge of the diseases of horses, equally certain it is that a prize was given which, had it been awarded three hundred years ago, might have done them credit with the then ignorant; but, now, to inform the members of the Highland Society and any others interested, "that prevention was better than cure"—"that if a horse was taken ill, to give him *goose grease*," and "if he was not cured," "to send for a veterinary surgeon," was, I say, what could never have been expected from such a society in this age of improvement.

It is not my intention at present to enter into the several diseases, or their causes, affecting horses used in agriculture; but to take one that is not often brought under notice, at least one which I do not remember to have seen explained at any lecture, or other source of information, viz. RUPTURE OF THE STOMACH, BOWELS, &c.; and I must admit, with the Yorkshire farmer who gained the Highland Society's prize before referred to—that in *these cases* "prevention is better than cure."

Riding homewards one night lately in company with one of our eminent medical practitioners here (Dr. Thomson), in talking of several diseases at present affecting horses and cattle, he (Dr. T.) said, that surely we veterinary surgeons must be very much at a loss in treating diseases—that we must in many cases treat them merely by chance, since we must do something to please our employers—that we laboured under great disadvantage compared with surgeons, our patients not being able to tell us where they were affected. In answer, I told him I thought, on the contrary, we had rather a *great advantage*. We, or most of us, had attended the same medical classes (while at college) that he had, and those relating to horses and cattle besides. That it was true, we could not ask our patients to take a deep inspiration, press their sides, or make them cough, asking them if they felt pain there, and telling them, you knew that was the place, for which reason it became our duty more particularly to pay attention to *symptoms*. We must note down in our mind the different symptoms produced by pneumonia, enteritis, nephritis, spasmodic colic, flatulent colic, &c.; and we must attend most particularly to the pulse; in doing all which we had another advantage over the human practitioner,

which was, that our patients could not intentionally deceive us. Again, in lameness, we must pay particular attention to the effect the injury any particular joint or tendon may have received, by having the animal shewn out to us, &c.; and then I felt confident that most veterinary surgeons, with ordinary experience, would at once point out the place whence the lameness arose; and, I added, if Dr. T. could have found it convenient to have accompanied me next day to his Grace the Duke of Buccleugh's dog kennel, I had a horse to examine there which had died that day of rupture of the stomach, whereby he might at once convince himself of the truthfulness of my assertions.

This horse was the property of Mr. Plummer, flesher, here, and was one of his farm-horses. He was taken ill on a Sunday night, frequently lying down and as suddenly rising; there was no appearance of flatulent cholic; none of the violent symptoms of spasmodic cholic; the pulse was scarcely affected, so there was no inflammation of the bowels; but there was rather a more than natural length of time occupied in inspiration, while the expiration was quick: the breathing not being accompanied with that groan or grunt denoting excessive pain, but with something similar to a sigh, occupying a considerable time between it and the next inspiration, accompanied by a particular appearance of anxiety about the countenance. The legs, ears, and muzzle were of a natural temperature; and the horse was said to have had the ordinary evacuations during the day. Gave a sedative drench composed of opium, camphor, and sp. æther. nit. after which he settled a little, though the sighing still continued, with profuse perspiration. I left him, with directions to the attendants to call me if he became decidedly worse. This was done about six o'clock in the morning. I found the symptoms much increased; the perspiration profuse all over the body; oftener down; stretching out his legs, and again rising; expirations quicker; sighing louder; still, no violent tumbling about, rolling over, &c. as we meet with in spasmodic colic; and not the quick and full and bounding pulse of inflammation of the bowels. My opinion, given to the owner, a decisive one, was as follows: Rupture of the stomach, and no chance of recovery. He died about four o'clock, P.M., and was taken to the kennel to be examined next morning.

Mr. G. H. Plummer, and some other young gentlemen, attended to witness the post-mortem examination, which was conducted by my son, D. Horsburgh, V.S. And as this has been the second horse, within a short time, belonging to Mr. P., that has died under nearly a similar disease, and as Mr. P.'s keeping, feeding, and general management of horses, is much

superior to that of most farmers, perhaps there was a little anxiety to see whether or not I could possibly tell that these cases were really ruptures while the animals were alive. The horse being raised on his back, my son removed the whole of the abdominal muscles, beginning at the ensiform cartilage, and carrying the dissection down along the false ribs on each side until the two incisions met at the pubes, thus removing the whole of the soft parietes, and exposing the bowels, as they lie, in their natural places. There were visible a few spots, but no inflammation of any consequence upon the peritoneum; while some of the contents of the stomach, and a considerable quantity of water, immediately presented themselves. On turning the carcass a little to one side, the cæcum, colon, &c. being pushed out of the way, the stomach became exposed to view; when ruptures of the muscular coat, seventeen inches in length, and of the internal coats, nine inches in length, were fully manifest. The stomach was full of solid food, the liquid contents having escaped into the abdomen. We did not remove it, rather preferring to leave it for any other person desirous of seeing it: the parties present being perfectly satisfied with what they had witnessed.

The account given of this animal was, that he was a greedy feeder: he was said to be able to eat as much hay as the other three horses that stood beside him. The farm servants take the Sunday attendance by turns: they get an order for the proper quantity of oats, beans, &c. to be given, but I think no restrictions as to hay or straw. These men may, out of good intentions to the horses, and having little else to do on Sundays, exceed the quantities allowed; the horses likewise being idle, have, on the contrary, not the necessity for so much food, yet having it at their will, such an animal as this was said to be could hardly fail to overload his stomach. Some such causes as these, or all combined, have a tendency to produce the effects alluded to; at least, it is certain that more horses belonging to farmers in my practice are taken ill on Sunday night or Monday than at any other time in the week.

The other case belonging to Mr. P. was a little different. The animal exhibited severe symptoms of pain, with distention of the bowels, throwing himself down with more violence; rising suddenly; having considerable perspiration, and sighing at every expiration. About 12 o'clock, leaving the stable, and remaining about an hour with Mr. P., I found the symptoms, on return, entirely changed: the animal was standing; his legs were cold; breathing spasmodic and laborious; his nose extended; and the sighing much increased, and perspiration excessive. In throwing himself violently down, from the distended state of

the bowels, the diaphragm became ruptured, and part of the bowels passed through the opening into the right cavity of the chest. He died next morning.

Mr. A. Gray, Mill-master, had a black mare taken ill: his servant had called in Mr. R. Taylor, their smith, who had bled her. My son was called on (I being from home), who gave her antispasmodic tincture; had fomentation applied to the abdomen, &c. without any good effect. The pulse was a little increased, and bleeding was again had recourse to. Blisters were applied to the abdomen, &c.

I arrived at the mills about 11 o'clock: the animal having been then ill four hours. The perspiration was now excessive; the pains spasmodic; the pulse 80, full and strong; sighing much. My opinion at once was, *rupture of the stomach or bowels*, and that there was no use in further treatment. She died about five o'clock next morning.

POST-MORTEM EXAMINATION shewed rupture of the cæcum. There had been an injury of considerable standing. There was found a sac, about four inches in diameter and two and a half deep, considerably thickened round its sides, arising from the centre of the cæcum, which probably has arisen from a severe kick from the iron point of some carter's shoe. On the top of this sac was an opening, about the size of a shilling, through which the contents had escaped, whereof a great quantity was found within the cavity of the abdomen. The inferior surface of the diaphragm was also coated with a smooth covering, half an inch thick.

Mr. Smith, farmer, Chalkyside, about three miles from this, sent one day some time ago for my attendance on one of his horses. When I arrived, the animal was dead. The roads at the time were slippery in some places, it having been a frost, and the horses' shoes remained unsharpened. The consequence proved, that in driving manure from Musselburgh to the farm, the horse had slipped and fallen, and, after some exertion, had risen again, without the cart being removed off him. It was with great difficulty he was able to take his load to the field, a distance of about half a mile; while doing so the perspiration was said to have been running from his belly, and he was sighing repeatedly. My opinion was at once given, that rupture of the stomach was the cause of death. He was taken to the kennel, where I examined him, and found the stomach completely empty, the contents having become extravasated and being plastered around upon every part of the abdomen.

Sir,—IN the foregoing cases of rupture of the stomach sent you, I have not taken the plan of manufacturing cases, or

shewing those produced from, perhaps, some diseased imagination, saying Mr. A. B. and Mr. C. D. had such and such cases. Many cases, I know, never existed that are written with initials; and I think no cases ought to be admitted into any public journal unless they can bear public examination. In all the cases I have sent to *THE VETERINARIAN*, or to any other paper, to be printed, I have always sent my name and address. I do not think these cases are of much use to the veterinary profession, they being all incurables; but they are such as shew our employers, and such of your readers as the "Sporting Surgeon," that we veterinary surgeons are not entirely ignorant. Besides, it is of some use, in cases of legal disputes, to be able to say whether or not rupture of the stomach has taken place before or after death. It may take place after death by carting, &c., to the place of examination; but this is well known to any veterinary surgeon. The edges of the ruptured part are not inflamed if the rupture takes place after death; but inflammation to a considerable degree exists, extending from the edge of the part to an inch or more inwards, according to the length of time the animal happens to have survived the accident. There are also found, frequently, clots of coagulated blood around the torn bloodvessels.

I am, Sir,

Your most obedient Servant.

AN ENEMY IN THE CAMP.

To the Editor of "The Veterinarian."

Sir,—HAVING noticed in your April number a paragraph, in which you state that some misapprehension had arisen as to a statement in the previous number respecting the presentation of copies of the Register to different parties, I naturally looked over the list, to see to whom the copies had been presented, and felt much pleased when I had done so, at such presentations having been made. Since then, however, my feelings on that point have altered very materially; since I cannot help regretting that in one instance (and one in which we ought not to have looked for it), the presentation has unfortunately been made to an official party who has certainly proved himself unworthy of it. I allude to the Principal Veterinary Surgeon, a man who could have been of great service in the formation of

the Registry, particularly as regards Army veterinary surgeons. However, as subsequent events very soon proved that that gentleman—though a member of council—when requested in council to give some information as to the appointment of uncertificated men to Her Majesty's service, *declined* doing so, we read that it was moved and seconded, that a minute should be made of his refusal: which was done. I think that further notice should be taken of it, in some way or other, if possible, and was in hopes of seeing some remarks in the number for this month. I have looked over the bye-laws, to see if any one of them would bear on the subject; but although there is one relative to the misconduct of candidates and members, there is nothing immediately touching on this point. I am sorry for it. If he does not choose to give information when in council, why does he go? unless to glean all he can? If he does go, he is bound in honour to give every assistance when requested, especially on a subject with which he is, or ought to be, so conversant. His silence tacitly admits that such appointments have been made, and reflects no small discredit on himself, and those who were concerned; and at the same time shews that he cannot have the interests of that profession at heart to which he belongs, and of which, I regret at his time of life, he has shewn himself so unworthy a member. I will say no more; but leave him to think over this quietly, and then ask himself, whether he has acted honourably to his profession or not!

Believe me,

Your's faithfully,

F. KING.

Stanmore, June 10, 1852.

GENTIAN AN AUXILIARY CATHARTIC.

To the Editor of "The Veterinarian."

My dear Sir,—I HAVE much pleasure in sending you a note I have received from Mr. Howell, V.S. Rochdale, with a summary of twelve cases, in which he experimented on the effect of gentian in aiding the purgative action of aloes.

I have already sent you a note from Mr. J. Brown*, V.S., Whitefriar Street, London, on the same subject.

On my return from India, in January, I found in one of the numbers of THE VETERINARIAN of last year a communication

* If Mr. Brown will send us some *cases* in point, we will publish them.—ED. VET.
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from each of those gentlemen: one had tried, and proposed to continue, the other intended to try, the medicine. After a lapse of some months, I thought I might fairly ask if they had carried out their intentions, and the result. Their answers I hope you will submit to *our* public, through the pages of your Magazine.

I am happy to say, the opinions of these two gentlemen are favourable beyond my most sanguine expectations. They have confirmed the opinion already formed by myself, that I had made known an agent which increased the purgative power of aloes so much as to allow of our using about *half* the usual quantity in a dose; with, I think I may fairly say, increased effect in a much shorter time, and without producing those unpleasant or untoward effects often produced by a *full* dose of aloes; in fact, my own experience confirms the remark on case VI. I never saw any other horses go through their physic so well.

Without being unduly biassed in favour of my own communication, I think I may consider it a subject *not wholly* devoid of interest; and in that view you will concur with me in regretting the apathy which, after a lapse of eight months, has prevented all but two of the body of veterinary surgeons from giving it a trial, or, at least, from communicating their opinions.

As I am about to return to India, allow me, with my best wishes for an increase of your correspondents, to say, for the present, "good bye!"

Sincerely your's,
T. HURFORD, V.S., 15th Hussars.

1st June, 1852.

Rochdale, May 23, 1852.

Dear Sir,—I must plead guilty of neglecting to forward to THE VETERINARIAN the promised experiment on gentian as an auxiliary to aloes in promoting catharsis.

You will see, by the cases I enclose, how it has acted in my practice. I may say, I am so well convinced of the superiority of the combination that I never now give aloes alone. I commenced using it the very day—October 1st—I saw your communication in THE VETERINARIAN, having then two patients just ready for physic, one having been a week up from grass.

Since then I find its action so certain that I never now give more than *ziv* to the largest dray or cart-horse, *3ij* generally sufficing for light-bred horses.

Please accept my best thanks for the obligation we are all under for your valuable communication. I should like you to

forward the cases to Mr. Percivall, after perusal, which he will be at liberty to make use of in THE VETERINARIAN if he chooses. They would have been sent earlier, but I have been so much engaged; and having no assistant or apprentice, my time is pretty fully occupied. Believe me,

Dear Sir, very truly your's,

J. HOWELL, V.S.

Mr. Hurford, Vet. Surg. 15th Hussars.

EXPERIMENTAL CASES WITH THE POWDER OF GENTIAN AS AN AUXILIARY TO ALOES IN PROMOTING CATHARSIS IN THE HORSE.

By JAMES HOWELL, V.S., Rochdale.

CASE I.

Swelled Legs.

Grey mare, 15 hands, 6 years old; had been well mashed 24 hours; gave her the following ball in the evening of Oct. 1st: R Pulv. gentianæ, aloes Barb. āā ʒiij.

October 2d.—Exercise at 10 A.M. half an hour, which produced five liquid evacuations from that time until 3 P.M., in stable one evacuation; taken out again to exercise half an hour, five more liquid motions: there were several more during the night, and the bowels were quite relaxed all the day following.

CASE II.

October 2, 1851.—Grey mare, 14½ hands, 7 years old. A week from grass; had only three mashes previously. Gave al. Barb. ʒiiss, gent. pulv. ʒiij, ol. menth. pip. gt. xx, mist. cum sapon. mol. The ball was given at 10 A.M., exercise at 3 P.M. and the following morning, when the physic began to operate freely; continued so during that day. Saw her on the 4th, when the dung was getting pultaceous.

CASE III.

Brown gelding, 16½ hands high, a clean legged cart-horse, 6 years old. Has considerable swelling of the near hind-leg from being thrown down in a cart. Has been three weeks from grass; feed, dry corn and hay. Brought to my infirmary

at noon of the 9th October, 1851. To be well supplied with bran mashes; tie up his head, to prevent him eating his bedding. The swelled leg to be well fomented, and the following ball to be given in the morning: \mathcal{R} Aloës B. pulv. gent. āā ʒiv, ol. essential. gt. xx; to be exercised a little in the afternoon. In the evening the dung was getting soft, and the following morning he was dunging all over the stable, his bowels continuing *relaxed* until the evening of the 12th.

CASE IV.

This was a half-bred bay mare, rising 5 years, $15\frac{1}{4}$ hands high. Had been up from grass a week, and kept entirely upon hay. I ordered her to be prepared for physic by giving plenty of mashes. This was neglected to be done; and, on inquiring, I find the ball, al. et gent. āā ʒiij, had been given on the morning of the 10th October, the mare having had only one mash, and that the night before. She had no exercise that day; and, when I called on the 11th at noon, the feces were getting pultaceous, but she never purged.

Note.—This failure is to be attributed to the want of proper preparation and exercise, as I have since then given the same mare ʒiiss aloes only, which operated freely enough.

CASE V.

Grey gelding, aged. He is a stout, clean-legged cart-horse, 16 hands high.

October 19th.—On entering the stable this morning he was found to be suffering from inflammation of the absorbents of the off hind leg. The horse can scarcely be made to move; the limb is very much swollen; has not eaten all the hay, but all the corn given last night; countenance expresses much pain; pulse 75; mouth hot, but moist; has passed the usual quantity of hardened dung during the night. Venesection 8ʒ; to have the following ball immediately:— \mathcal{R} Aloes Barb. ʒiv, pulv. gent. ʒiiss, potass. nit. ʒij, ol. ess. gtt. xx.

October 20th.—On entering the stable this morning he was purging freely; had been moved about several times yesterday for a few minutes; heat and swelling of leg much diminished; pulse 65; will eat hay and mashes freely, but drinks little water.

21st.—Much improved; bowels continue to act freely. Half an hour's exercise both morning and evening yesterday; appetite continues good; to be exercised to-day, and have a diuretic.

22*d.*—Very much improved; swelling of limb nearly subsided; dung pultaceous: to be worked an hour or two in chains or traces to-day.

23*d.*—Quite recovered.

CASE VI.

October 19*th*, 1851.—Black mare, 6 years old, 15 hands, light bellied hackney—has swelling of the hind legs, with disposition to crack; was prepared yesterday with three mashes only; this morning had a ball containing *al. et gent. āā 3iij*.

20*th*, 9 A.M. — *Fæces* pultaceous. Went out for half an hour, returned purging freely; she continued purging until noon of the 21*st*, when the *fæces* began to be pultaceous. The groom remarked that he never saw her or any other horse go through her physic so well.

CASE VII.

Grey mare, 5 years old, 15½ hands, light bellied harness horse. Has impaired appetite, hidebound, swelled legs, &c. indicating want of condition. Saw her October 19*th*. Mare to be well mashed to-day.

20*th*, 7 A.M.—She had a *3iij* dose as above; ordered exercise in the afternoon. Eight o'clock P.M.; *fæces* getting quite soft.

21*st*, 8 A.M.—Mare purging freely, which continued till the following evening.

CASE VIII.

Black cart horse, 16 years old, 16 hands high, in fair condition. Was called in to see him at noon, 24*th* October. He had been noticed to reel on going out of the stable that morning, yet he was put to work, viz., to fetch wash from the town, a distance of two miles. About eleven o'clock he reeled, and fell down in the cart; was got up and taken home, in doing so he again fell; pulse 40, tense and full; appetite not in the least diminished. He reels as he walks; but can turn and back very well. V. S. ad *℥s. vij*, to fetch a ball for him, and a stimulating liniment for the spine. The dose *3iv āā* was not given before 2 P.M. To have nothing but mashes and chilled water *ad lib.*

October 25*th*, *mane*.—Much improved in his walk; bowels beginning to act; was led out half an hour. Afternoon, bowels responding freely.

27*th*.—Convalescent; bowels continue to act kindly.

CASE IX.

Chestnut mare, 6 years old, 14½ hands, harness mare. Has been troubled with worms whilst on a two months' journey. To be mashed to-day, October 26. Gave her the following ball at 8 P.M. same night, viz., aloës ʒiiss, pulv. gent. ʒiijss, ol. ess. gt. xx.

October 27th.—Eleven A.M., mare purging freely; was purging when the stable was first opened this morning. This patient continued to purge until the evening of the 28th. Hundreds of worms came away in the fæces. Her appetite was not in the least affected, and she had but very little exercise indeed. Her condition soon improved, and has continued good up to the present time.

CASE X.

Brown carriage mare, 6 years old, stout made, 16 hands high. Has been dull and off her feed, and lately clipped. Was prepared on the 26th October for physic.

October 27th, 8 A.M.—Had a ball containing ʒiij of each ingredient; exercise in afternoon.

28th, 7 A.M.—Had passed several soft evacuations; was sent out for half an hour, when she began to purge freely. This mare's appetite was more impaired during the action of the physic; and the bowels did not respond so long under its influence as in some other cases.

CASE XI.

This was the same mare as No. 6: she was prepared on the 29th, had the same dose the 30th. It again operated freely.

CASE XII.

Chestnut filly, 4 years old, 15 hands, light made. Has been running loose for two months, in consequence of an accident. Prepared October 30th for physic. Gave her a ball at 8 A.M., 31st, containing the following: Aloës ʒiiss, pulv. gent. ʒiijss, &c. Evening, dung getting soft.

November 1st, mane.—Purging violently. Appetite remaining good as ever.

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

AN INQUIRY INTO THE REASONS WHY THE HORSE RARELY VOMITS.
By JOSEPH SAMPSON GAMGEE, Esq., Student in Medicine in
University College, London.

[From the "London Journal of Medicine."]

THIS subject has, within the last two centuries, engaged the attention of numerous physiologists, the object of whose inquiries, however, has differed somewhat from ours; for the majority of them have been imbued with the prevalent opinion that the horse NEVER vomits. Thus Lamorier addressed to the French Academy of Sciences *Une Mémoire où l'on donne les Raisons pourquoi les Chevaux ne vomissent point*; and M. Flourens recently published a paper on non-vomiting in the horse, heading it with the following dogma, "*Le Cheval ne vomit point; c'est là ce que chacun sait.*"

Were it not that M. Flourens is one of the most recent, as well as most renowned, writers on the subject, we should not deem it necessary to contradict this statement, because it has long been known that horses occasionally, though rarely, do vomit. True it is, that, since as a general proposition we cannot assert that the horse does vomit, it might be supposed that the converse statement would hold good; and so it does; but only in a sense that is too vague to warrant its being adopted as the title of a vexed scientific question.

In the pursuit of our inquiry, under present circumstances, it being indispensable that we should clear the path from error before we can hope successfully to attain the truth, we shall, firstly, quote cases of horses having vomited; secondly, analyse the opinions which, at various periods, have been propounded on this subject; and, thirdly, adduce reasons to prove why vomiting in the horse is of rare occurrence.

I. CASES OF VOMITING IN THE HORSE. In relating the history of a horse affected with spasmodic colic, M. Charlot makes the following statement: "Speedily, and before me, the animal gathered together its limbs, made an effort, by contracting the abdominal muscles, opened its mouth, and ejected, by the nostrils, a thick, bloody, foetid liquid, of acid taste, and mingled with fragments of forage. The act of vomiting was repeated in less than half an hour. It gave rise to the evacuation of about two pints of liquid, which had been previously .

swallowed, and in which two strongyli were contained." M. Tombs states that a bay mare, while on a journey, vomited a gallon and a half of indigested food. Though we do not agree with the explanation which he gives of the phenomenon, his statement of fact respecting it is so plain as to be irrefutable.

These two cases appear to be conclusive evidence to prove that M. Flourens, and many of his predecessors, have sought explanations for a supposed, and not real, fact; and, therefore, have at least incurred the danger which attends those who study nature with imaginations erroneously preoccupied.

II. HISTORY OF THE SUBJECT. Were we to arrange the historical part of the subject chronologically, it might prove tedious; to avoid which we shall class opinions according to the analogies they present.

1. While acknowledging that the stomach of the horse is situated at a distance from the muscular walls of the abdomen, M. Dupuy attributed, in a great measure, the difficulty of vomiting in that animal to powerful compression of the esophagus by the muscular fasciculi of the right crus of the diaphragm, in the substance of which it passes. A similar reason was, indeed, hinted at long since by Peyer; but its fallacy is too apparent to need much comment, since, in the same manner as food passes freely down the esophagus to the cardiac orifice, it may, without obstacle, retrace the same course.

2. A second class of writers have imagined the existence of a valvular apparatus at the cardiac orifice, destined to prevent the return of food into the esophagus. Among them was Lamorier, who attributed the greater part of the horse's difficulty in vomiting to the impossibility of compression of the stomach by the abdominal walls and diaphragm, alleged that a crescentic valve was so arranged as partially to close the cardiac orifice, and prevent the return of coarse food through it. Dr. Gurlt has figured a spiral valve at the cardia; and Mr. Spooner, after observing that the cardiac orifice "has a sort of valve formed by the duplication of its membrane," adds, that "the esophagus, just previous to its entering the stomach, makes an acute angle, by which means, in great measure, vomiting in the horse is almost entirely forbidden." It has not, however, been satisfactorily shewn that either of the forms of valve above alluded to exists in the horse's stomach.

3. M. Colin, after repeating Lamorier's observation, that the relative position of the stomach and large intestines protects the former from the direct pressure of the abdominal walls, correctly remarks that, at its terminal orifice, the walls of the esophagus are very thick, and that the cavity in its interior is closed, the mucous membrane being folded like a radiated

flower. To this arrangement, M. Colin attributes the impossibility, or extreme difficulty, of vomiting in horses; and he endeavours to justify his belief by applying to the stomach the theory of the hydraulic press. But such a line of argument is not justly applicable in the case of the stomach and esophagus, which, as living and active organs, are not regulated solely by hydraulic laws.

4. A fourth class of observers have attributed the difficulty of vomiting in the horse to the oblique insertion of the esophagus into the stomach, and to a sphincter, which they allege to be formed at the cardia by the union of the muscular bands belonging to the stomach and esophagus. This doctrine appears to have been first promulgated by Bertin, who stated, in proof of the existence of the cardiac sphincter, that the weight of a man did not suffice to expel water or air from the cardiac orifice of various stomachs, the duodenum being tied. Lafosse only took into account the sphincter at the cardia, whereas, of late, Berard and Rymer Jones have reiterated the conclusion of Bertin; and the former writer, moreover, remarks, that the rhythmic movement which M. Magendie discovered in the lower third of the esophagus, does not occur in the horse, whose esophagus, he adds, is composed, in its last eight or ten inches, of a very elastic but inirritable tissue. Since, however, the microscope, no less than the naked eye, abundantly attests the true muscular character of that tissue, M. Berrard's denial of its irritability does not seem to be sufficiently warranted.

Bertin's theory has lately found a zealous advocate in M. Flourens, whose opinion on this question merits more careful study than do those of his predecessors, because he has based it on experiments which he affirms to be *univocal and demonstrative of the obstacle to vomiting in the horse*.

Having been interested by a perusal of M. Flourens' publication at an early period of my studentship, I at once repeated some of his experiments, and was surprised at the very different results which I obtained from them. A just appreciation of my position in relation to M. Flourens made me diffident, and caused me to repeat my observations and the study of his paper, at different times over a period of nearly three years. The result of this plan has been more clearly to establish the fallacy of M. Flourens' conclusions, and the mode by which he arrived at them. In justice to the originator, I prefix a translation of the account he gives of them to the results I have obtained, in order to afford full opportunity to every one to arrive at his own conclusions.

EXPERIMENT I.—“The stomach being filled with water, and the pylorus tied, the stomach was placed on a table, and on the

stomach a board; two men then mounted on the board; they pressed it by jerks, and not a single drop of water escaped through the esophagus.

"It was evident from this first experiment, that all the obstacle to the escape of water by the esophagus was in the superior orifice of the stomach. This was rendered more evident by a second experiment.

EXPERIMENT II.—"The stomach being filled with water, and the pylorus tied, I introduced a metallic tube, about an inch long, through the esophagus into the superior orifice. No sooner was the tube placed in the opening than water flowed through the esophagus.

"The obstacle of the cardiac orifice having been surmounted, none other presented itself in the esophagus.

"Hence the esophagus, notwithstanding its strong circular muscle, takes no part in the phenomenon, as is even more clearly demonstrated by the following experiment:—

EXPERIMENT III.—"The stomach being filled with water, and the pylorus tied, I cut, piece by piece, from the pharynx to the stomach, all, absolutely all, the esophagus; the stomach was pressed, and not a drop of water escaped from it.

"The esophagus having been removed, I was able to introduce my finger into the cardiac orifice, and I recognised two things; firstly, that the more the stomach was compressed, the more closely was my finger grasped; and, secondly, that the oblique direction of the superior orifice greatly aided the phenomenon, for as soon as I rendered this orifice straight, water flowed.

"Bourgelat believed that the principal cause of the *not vomiting* might be in the accumulated folds of the mucous membrane of the cardiac orifice. The following experiment proves that Bourgelat erred:—

EXPERIMENT IV.—"I made a large incision on the side of the stomach; I subsequently removed all the mucous membrane of the cardiac orifice, and even that of the esophagus. I sewed up the opening made with the knife; I filled the stomach with water; I tied the pylorus; I recommenced compression of the stomach, and not a drop of water escaped.

"The third experiment limits the extent of the obstacle to vomit on the part of the esophagus; here is one which limits it on the part of the stomach.

EXPERIMENT V.—"I made a large incision on the side of the stomach, and I cut the two *lateral fasciculi* of the internal muscles, without, however, touching the internal fibres, which really are the sphincter.

"The stomach was then sewn up and filled with water, the

pylorus was tied, and pressure recommended. Not a drop of water escaped by the esophagus.

“All these experiments are univocal; they all demonstrate: firstly, that the obstacle to the horse’s vomiting is in the superior orifice of the stomach; secondly, that it is in that orifice alone; and, thirdly, that it is there due, firstly, to that orifice having a sphincter, and, secondly, to the direction of that orifice being *oblique*.

“Bertin had, therefore, suspected rightly, that the sphincter of the superior orifice of the stomach, and the oblique direction of that orifice, are the two causes why the horse does not vomit.”

Such is M. Flourens’s statement. My own experiments on twenty-two horses’ stomachs have given the following results:—

A.—Twelve stomachs (with from four to six inches of esophagus attached to each) having been filled with water through the pylorus, and this aperture closed by ligatures, allowed that liquid to escape through the cardia when little or no pressure was exerted on them. In several, the water at once gravitated through the cardia; in others, a very slight manual pressure sufficed to force it through that passage. In all cases I have provided for the freedom of the cardiac orifice while pressure was applied to the surfaces of the stomach: this I have done by placing the viscus near the edge of the table, and allowing its cardiac end to project a little. M. Flourens states that he caused the stomach to be placed *on a table*, without giving any reason to suppose that he took the necessary precaution with reference to the cardia. By citing one of the above twelve experiments, it will be seen how likely the experimenter, in such a case, is to succeed in discovering the object of his wish, if he be not cautious in avoiding fallacies.

A horse’s stomach, with about five inches of esophagus, filled with water through the pylorus, and thus secured, when placed near the edge of the table with the cardia free, allowed water to flow through it by mere gravitation; slight compression exerted on the organ sufficed to expel the water to a considerable distance. When I placed my open hand on the surface of the stomach, and pressed forwards, the flow gradually diminished, and eventually ceased, even though considerable pressure was applied. By directing the pressure forwards I directed the cardia downwards, and mechanically closed it: how likely, nay almost inevitable, must be a similar result for a similar reason, when two men stand on a board placed over the stomach and press with jerks.

B.—A stomach, which did not allow water to flow through the cardia when a weight of fifty-two pounds was placed on it, and

another, which required the pressure of twenty pounds before the water escaped, allowed the fluid to flow when I applied very slight pressure to the cul-de-sac with my hands.

The result of this observation suggests another source of fallacy in M. Flourens' experiments. The force generated by the contraction of the stomach's muscular coat is distributed all over its superficies, whereas M. Flourens only applied vertical pressure to one aspect. It is easy to understand how the result obtained by his doing so might have been readily altered by simultaneously compressing the extremities of the organ.

C.—After filling a stomach with water through the pylorus, this orifice was closed by ligature, and the viscus placed on a table. By grasping the stomach with my two hands, and exerting very considerable pressure in different directions, no water escaped. I then placed the stomach near the edge of the table, and on it a board with fifty-four pounds of iron; a little less weight than this sufficed to make the water dribble through the cardia; with this weight it flowed in a small but continuous stream. When I inclined the board backwards, so as to exert the greatest pressure on the great curvature of the stomach, the flow of water was freer than when I held the board horizontally; as I inclined it forwards the stream gradually diminished, and eventually stopped. Through an opening made at the great curvature I removed the mucous lining of the esophagus, and that in the immediate neighbourhood of the cardia. On pouring water through the artificial opening, it escaped through the cardiac orifice in a large stream by mere gravity.

D.—Four stomachs, in the same circumstances as the above, did not give exit to the contained fluid, though grasped and firmly pressed by the hands of two persons; but the water escaped freely from all when the lining of the esophagus, and around the cardia was removed through an incised aperture made at the great curvature.

E.—A stomach, treated and placed as usual, did not allow water to escape through the cardia when a boy, mounted on a board was placed over it; but the water flowed when a man, weighing one hundred and forty-four pounds, took the boy's place.

F.—One stomach, in the same condition as the preceding, did not allow the escape of any water through the cardia when a man weighing one hundred and fifty-seven pounds mounted on a board which had been placed horizontally over it. When a boy, weighing sixty and a half pounds, was added, water flowed in a continuous stream, and the viscus burst.

G.—One stomach bore the weight of two men, without any water flowing through the cardiac orifice; on making an open-

ing into the stomach, I found the mucous membrane at the cardia very much folded.

The experiments A, B, C, D, warrant us in denying the existence of a sphincter at the horse's cardia. It would have been more satisfactory had the experiments E, F, G, been completed. Nevertheless, the fact that the results most closely agreed with M. Flourens when, through inexperience, I conducted them with the least caution, may not be without weight in the establishment of the truth. When once it has been proved that, owing to its laxity, the thick mucous membrane forms folds at the dead horse's cardia, which more or less completely occlude it, it is easy to understand how—according to whether the stomach be contracted or dilated at the time of death—the degree of obstruction should vary. No application can fairly be made of the possibility of this obstruction in the dead horse's stomach to the physiology of that viscus during life; because the very fact of the mucous lining of a strong muscular tube being much folded proves that its bore is susceptible of being much dilated, provided the stimulus to dilatation be communicated to the muscular structure.

Though we believe that the citation of further evidence on this point is not essential to the cause of truth, it may not be quite useless to oppose to M. Flourens the opinion published in 1847 by one of his distinguished countrymen. In M. Mignon's report, already quoted, we find the following passage:—"The reporter of your commission, when in charge of the anatomical works at the Alfort school, has many times proved, while passing a current of water through the first portions of the alimentary canal, that it was extremely easy to make the water introduced into the stomach through the duodenum escape through the esophagus; it was sufficient for this purpose to fix a stop-cock firmly and hermetically in the duodenum. The water on entering the stomach, first filled it, and visibly distended it; then dilated the cardia into a kind of funnel; finally forced its way through that orifice, and flowed outwards."

A somewhat less erroneous, because less exclusive, theory than any of the preceding has been advocated by Girard. After having described the arrangement of the muscular fibres at the horse's cardia, he states, that he regards that as the principal cause of the inaptitude of monodactyles to vomit; as accessories to it, the peculiar mode of insertion of the esophagus, the shape and position of the stomach. We have already confuted the evidence which has been adduced by Bertin and others, to prove that the obstacle to vomiting resides in the muscular fibres of the cardia. As to the influence of the peculiar mode of insertion of the esophagus, and the shape of the

stomach, we need only remark, that since both these conditions are susceptible of alteration by the muscular activity of those organs, no arguments, based upon the assumption of their being invariable, can be accepted as conclusive. To the position of the stomach (near the spine, and separated from the floor of the abdomen by the enormous large intestines), even I, at one time, attributed a great part of the horse's difficulty to vomit. It occurred to me, however, that the act of parturition in the mare is one of great rapidity; that abdominal respiration during disease or severe exercise is, in the horse, very easily effected; in the performance of these functions, and in the voidance of urine and fæces, the abdominal muscles take a very active part; and yet the uterus, bladder, and rectum are as disadvantageously placed, with reference to the floor of the abdomen, as is the stomach; the fact is, that the abdomen being completely full, pressure is transmitted very effectively from its muscular walls to the contained organs.

Different as are the opinions we have hitherto commented upon, they yet present one remarkable point of analogy, inasmuch as all their authors attributed the horse's difficulty to vomit to a *mechanical obstacle*. It affords me pleasure gratefully to acknowledge, that for not falling into the same error I am indebted to Dr. Sharpey, who gave me an all-important hint by suggesting an inquiry into the action of emetics on the horse. It at once occurred to me, that as the mechanical part of the act of vomiting is excited by a reflex stimulus from the nervous centre, it behoved those who undertook to demonstrate why the horse rarely vomits, to study two classes of phenomena—the *nervous* and the *mechanical*:—for it is quite obvious that if the stimulus to the expulsive effort be wanting, it is useless to attribute the impossibility of the evacuation of the stomach by the esophagus to mechanical obstacles, for they have no opportunity of coming into operation. Moreover, since I have excluded the existence of any mechanical impediments to vomiting in the horse, it is evident that the question which forms the subject of my inquiry can alone be solved by determining what is the action of emetics on the nervous system of the horse.

It is since I received and worked upon Dr. Sharpey's hint, that I have carefully studied M. Mignon's report, and have found that it occurred to him and his collaborators, that the efforts of those who had studied the subject as pure mechanists could but prove abortive. "Is not the stomach of the horse that vomits," asks the reporter, "in conditions which no experiment would reproduce? And do you give no consideration to the nervous element, which you forget to regard as one of the

data of the problem?" As a sketch of their theory of vomiting in the horse, MM. Mignon, &c., state "that the physical and vital conditions of vomiting, in their orders of succession and importance, are the following:—

" 1. Extreme distention of the stomach.

" 2. Disappearance of the folds in the esophagean mucous membrane, accompanied by dilatation of the cardia into a kind of funnel.

" 3. Paralysis of the muscular coat.

" 4. Energetic concurrence of the nervous force, and of the action of the expiratory muscles of the abdominal walls."

As to the first of these propositions, on which the reporters lay the greatest stress, it may suffice to say that it is an unfounded assumption. We grant that frequently undue repletion of the stomach is the stimulus which, through the medium of the nervous centre, brings about the reflex movements that end in evacuation of its contents by the esophagus; but such repletion of the viscus is not essential to the perfect manifestation of the reflex acts in question. This is abundantly testified by the sufferers on a sea voyage, in whom the act of vomiting, frequently commencing when the stomach is empty, and continuing at other times after its evacuation, must primarily be due to a nervous cause alone.

The purport of the second proposition is best given in the terms of the report: "The disappearance of the folds in the mucous membrane at the cardia, and the dilatation of this part into a kind of funnel, are a necessary consequence of the eccentric and excessive distention of the stomach. The power that separates the sides of the viscus from each other is as great at the cardia as elsewhere; and if in the first moments of repletion of the gastric pouch the esophagean sphincter resists, it no longer does so when the repletion is excessive. The walls of the stomach, by the mere fact of their distention, carry with them the two bands of the sphincter, the rectilinear direction of which they interrupt; and then these fleshy bands, far from enclosing the cardia as between the branches of a compass, merely surround it as a section of a funnel. Thus it is that the esophagean orifice is transformed into a wide, open, and round orifice.

The extreme dilatation of the stomach, by destroying at the cardia, and that in a purely physical manner, the obstacle which is opposed to the escape of matters through the esophagus, must therefore be regarded as the principal condition of vomiting. This is accordingly confirmed by experiment. The experiment alluded to, is the one quoted at p. 555, from which M. Mignon discovered that if water were poured through the duodenum into the stomach, this first became distended, then the cardia opened and allowed the fluid to escape.

We confess that we were not a little surprised when we first reflected that those who thus mechanically and positively argued from experiments on dead horses' stomachs, for the predetermination of vital phenomena, have in the same paper loudly inveighed against the system of determining the functions of living parts from the results of observations on dead ones.

Admitting the possibility of extreme distention of the horse's stomach, we deny that it in any degree has a mechanical tendency to open the cardia during life. Let any one look at a horse's small stomach, placed beside the enormous quantity of food that animal is capable of devouring in a short time, and he will be forced to believe that, in perfect health, the organ is susceptible of great dilatation, without either involving opening of the cardia or impairment of its vital power of contraction. To argue that because one part of a hollow viscus is dilated, the other must be so likewise, is in opposition to known facts. Moreover, my own experiments on dead horses' stomachs have shewn me that not always is extreme distention of the viscus with water followed by escape of the fluid through the cardia; it is or is not, according to the presence or absence of mechanical obstructions. The opening of the cardia, no less than its closure, is, in the living animal, doubtlessly owing to vital contraction of muscular fibres.

The reporters found their third proposition on the general truth that extreme dilatation of a hollow muscle is attended with impairment of its contractile property; thus they make the third a necessary sequence of the first proposition. Since we have impugned the latter, the former, in our opinion, falls to the ground. In asserting that before a horse can vomit the muscular coat of the stomach must be paralysed, Mignon, in main part, re-echoed the theory of Renault, who several years previously had announced, that not only was the muscular action of the stomach useless, but opposed to vomiting, which only occurred when that viscus became excessively distended. My own experiments, conducted for the purpose of ascertaining the effect of injecting a solution of tartar emetic into the veins of the horse, force me to look on those of M. Renault with great doubt; for I have yet to learn that an experimenter has the power of exciting, at will, efforts to vomit in the horse; and what I have seen leads me strongly to suspect, that when, after injecting tartar emetic into the veins of a horse and cutting open the abdomen, observers have indulged in the belief that they were witnessing efforts to vomit, they have only witnessed the violent efforts made by tortured brutes in self-defence.

The theory advocated by Renault and Mignon is, as the latter admits, founded on the doctrine first promulgated by Bayle and Chirac, and of late rendered notorious by the singular experi-

ments with which M. Magendie defended it. The French hippiatrists, in fact, having exclusively studied the mechanical part of the act of vomiting, were forced to decide between the opposite doctrines, defended by Haller and Magendie, as to the participation of the stomach in the performance of that act. The result has been, the declaration of their adhesion to their illustrious countryman; a result which would in all probability have been different, had they rigidly tested the validity of the claims of his doctrine, and have taken due notice of the positive observations of Wepfer, Haller, and Rudolphi, and of the recorded cases in which vomiting occurred when extrinsic pressure was removed from the stomach, either by palsy or destruction of the abdominal muscles.

That the energetic concurrence of the nervous power, and of the action of the expiratory muscles of the abdominal wall, take part in the act of vomiting, as stated in M. Mignon's fourth proposition, all will grant; but that it is fourth in the order of succession we deny, for it is well known that purely nervous phenomena are the first signs of a disposition to vomit: and that it is fourth in the order of importance we deny, on the ground of the experimental truth, that, whereas the condition of the stomach is unimportant, a participation of the nervous system is indispensable, before the movements necessary to vomiting can be effected. So unimportant, indeed, is the condition of the stomach, that vomiting may occur without it, as proved by M. Magendie's experiment of substituting a pig's bladder for a dog's stomach; and it is not a little surprising that the reporter, who seems to have laid so much stress on it, should not have discovered that his idea of "excessive dilatation of the stomach being the condition, *par excellence*, of vomiting in the horse," was opposed to the result of an experiment which he invoked in defence of his views.

Now that we have subverted three out of the four propositions on which Mignon's theory is founded, we should be at a loss to guess what might be his idea as to the reasons why the horse rarely vomits, if, in a discussion which ensued on his report, he had not unequivocally avowed assent to Girard's *mechanical* doctrine, the fallacy of which we have already demonstrated.

Thus we have completed a critical and historical account of the opinions emitted on the subject; and, having proved that all observers have attributed the rarity of vomiting in the horse to mechanical causes *which do not exist*, it remains for us to determine whether there are any impediments to it in the nervous system of the horse. With this object in view, let us inquire into the action of emetics in the horse.

[To be continued.]

Foreign Department.

ON THE SALIVARY GLANDS IN MAN AND THE VERTEBRATED ANIMALS.

M. BERNARD has recently laid before the Academy of Sciences at Paris a paper containing *Researches into the comparative Anatomy and Physiology of the Salivary Glands in Man and Vertebrated Animals*. We submit a *Resumé* of it:—

The salivary apparatus in man and mammiferous animals, in whom it is exhibited in the highest perfection, comprises three principal glands,—*the parotid, the submaxillary, and the sublingual*; to which we may add numerous *bucco-labial glands*, and the *zygomatic gland*, or Nuck's gland, only to be found in carnivorous animals and some ruminants.

From the structural analogy existing between these different salivary glands, anatomists have always considered that their secretory products, which all become diffused in the mouth, possessed identical properties, and were intended to serve one common purpose. And this similitude of organization it is that has induced them to put the pancreas in the same class of organs, under the name of the *salivary gland of the abdomen*.

The author of the paper before the Society has shewn, in a preceding memoir, that investigations into the properties and uses of the pancreatic juice have served to distinguish this gland from all others. This is exactly what he has in view to ascertain in the present paper, viz. whether the different salivary glands furnish secretions of similar or dissimilar properties and uses.

M. Bernard's paper admits of consideration under three heads, *anatomical, chemical, and physiological*.

The anatomical investigation of it has led to the deduction, that the salivary glands of the different classes of vertebrated animals exhibit two types of structure:—1, the *conglomerate character*, as found in man and all mammiferous animals; 2, the *follicular character*, as seen in such birds and reptiles as possess salivary glands. We are not, however, to infer from this, that all the salivary glands even in the same animal possess identical functions. Similitude of organization only tends to prove the impossibility of arriving through anatomy at a natural classification of the salivary glands. The author proposes the opposite method of classification, according to the physical characters of their secretions, especially with reference to the demonstrable uses they are intended to serve; by which means we arrive at

positive distinctions, enabling us to establish modifications and gradations between the salivary organs, according as they appear to us in mammiferous and the other classes of vertebrated animals.

Experiment has taught us, in fact, that, in the mammifera, the three salivary glands, properly so called, secrete fluids not physically identical, which has led to the belief of their being three distinct salivary agents, one for gestation, another for mastication, and a third for deglutition; and that the physico-chemical properties of each are quite in accordance with these different physiological distinctions. The saliva of the parotid, not viscid but watery, penetrates and readily dissolves substances; whereas, on the contrary, the saliva furnished by the sublingual and buccal glands, viscous and glutinous, is admirably suited for enveloping the alimentary bolus, and for increasing its coherence and facilitating its gliding properties; while the submaxillary saliva, from possessing a mixed character, at once operates as a solvent, and loosens or binds the sapid matters, at the same time that it has the effect of lubricating the surfaces and diminishing the rudeness of contact.

The author sums up his paper in these terms:—It follows, from the facts adduced, —

1. That anatomy exhibits the groups of glands, called *salivary*, to us as an homogeneous apparatus, the different organs of which their texture shews to be identical.

2. That experimental, physiological analysis on the contrary, while it demonstrates the difference of their secretions, and directs our view to the nervous influences regulating the secretions, teaches us that each gland has a special function which it exercises under separate and independent agency. Notwithstanding the diffusion and commingling of the different *salivæ* within the mouth, their uses remain distinct; experience informing us, that the function belonging to the parotid secretion is that of aiding mastication; that of the submaxillary, gustation; and that of the sublingual and buccal glands, aiding deglutition.

It is by such physiological facts alone that we are able to investigate and understand, in their veritable signification, the modifications the salivary organs undergo in the different species of vertebrate animals. The true characteristic of their salivary glands should not be sought for either in the anatomical structure, the volume, or the form of the glands, but in the nature of the function they are designed for. Consequently, it is contrary to just physiological principle to follow the example of some anatomists, such as J. F. Meckel, and pretend to find parotid and submaxillary glands in birds wherein they have no existence, when it is known that these animals in general lack the

functions requiring them,—mastication and gustation. From this it is evident, that the uses of such salivary glands as are to be found in birds can have relation but to the sole existing function, that of deglutition; and that the viscous, tenacious secretion furnished by their glands, partakes of nothing in common with the parotidean and submaxillary secretions; but, on the contrary, resembles in every respect the fluid secreted by the sublingual and buccal glands in mammifera.

The different salivary glands, having each of them a special part to perform, are not calculated to compensate or become substitute one for the other. Whenever a salivary gland becomes augmented or diminished or annihilated, the function depending upon it undergoes correspondent changes.

In mammiferous animals, who masticate hard and dry substances, the parotids attain their maximum of development; whilst in those animals who inhabit the water and live upon humid food, this gland becomes atrophied, or even altogether disappears; although there are cases in which the other salivary glands preserve their normal development, corresponding to the function they are intended to serve. Lastly, this natural deduction has led me to examine into an assertion set forth in treatises on comparative anatomy, to the effect that in the mullet (*surmulet*) the sublingual gland is wanting, and has its place supplied by the submaxillary. The sublingual gland of the mullet has a perfectly distinct existence, as I have represented in my drawings. Thus becomes corrected an anatomical error, while confirmation is added to the utility of physiological notions to the development of which this paper has been consecrated.

Gazette Médicale.

VETERINARY DEPARTMENT OF THE FRENCH ARMY.

By a decree of Louis Napoleon, dated 28th January, 1852, the following regulations have been drawn up for the Army Veterinary Department:—

1. The department on the peace establishment to consist of—			
Principal veterinary surgeons	.....	3	
Veterinary surgeons	{ of the 1st class.....	51	101
	{ of the 2d ditto	50	
Assistant veterinary surgeons	{ of the 1st class....	74	148
	{ of the 2d ditto	74	
Total.....			252

2. Assistant veterinary surgeons of the second class are elected from such pupils as have obtained diplomas at the Government Veterinary Schools, who are under thirty years of age, and can produce good moral characters.

3. Assistant veterinary surgeons of the second class are promoted into the first partly by seniority, and partly by election.

4. Full veterinary surgeons of the second class are thereto promoted from assistant veterinary surgeons of the first class, after having served at least two years in the latter rank.

5. The principal veterinary surgeons are elected from among such veterinary surgeons of the first class as have served not less than four years in that rank.

6. No person can be promoted to superior rank without having passed one year in the class immediately below.

7. Veterinarians will take rank among themselves according to their grade, the several classes being subordinate to one another.

This regulation is intended to be altogether special, having no reference whatever, directly or indirectly, to military rank.

Veterinary surgeons rank, both in regiments and on the staff, next to medical officers.

The retiring allowances of veterinary surgeons will be the same as fixed by the regulation of the 11th April, 1831, which are,—

Principal veterinary surgeons from 1200 to 1600 francs (£50 to £67) per annum.

Veterinary surgeons of the first and second classes, from 800 to 1200 (£34 to £50) per annum.

Assistant veterinary surgeons of the first and second classes, from 600 to 1000 (£25 to £42) per annum.

The following constitutes a Table of the pay and allowances of veterinary surgeons in the French army.

PAY AND ALLOWANCES OF VETERINARY SURGEONS IN THE FRENCH ARMY.

Rank or Grade.	Pay while Present.				Pay while Absent.				Allowance for Lodging and Necessaries.		Extraordinary Allowance on being called out.	Allowance for loss of Horse and Baggage.		Gratuity on taking the Field.	Rations of Food, Forage, and Firing, on Service.			Marching Money per diem.	Additional Pay per Annum allowed to Veterinary Surgeons on remount Service.
	Per Annum.		Per Diem.		On Leave.	In Hospital.	In Hospital while on Leave.	Under Arrest.	For Lodging.	For Necessaries.	Fr. per An.	Fr.	Fr.	Fr.	Rations of Provisions.	Ditto, of Forage.	Ditto, of Firing.	Fr. C.	Fr.
	In Quarters, or in the Field.	On the March.	Additional Pay in Paris.																
Principal Veterinary Surgeon	Fr. 2500	Fr. C. 6 94	Fr. C. —	Fr. C. 1 73	Fr. C. 3 47	Fr. C. 4 94	Fr. C. 1 74	Fr. C. 3 47	Fr. C. 360	Fr. per An. 180	Fr. per An. 40	Fr. 400	Fr. 400	Fr. 600	2	2	4	2 50	Fr. 500
Veterinary Surgeons of the 1st Class	2200	6 11	8 61	2 03	3 05	4 61	1 55	3 05	240	120	30	400	400	500	2	1	4	2 50	440
Veterinary Surgeons of the 2d Class	2000	5 55	8 05	1 85	2 77	4 05	1 27	2 77	240	120	30	400	400	500	2	1	4	2 50	400
Assistant Veterinary Surgeons of the 1st Class	1800	5 —	7 50	1 66	2 50	3 75	1 25	2 50	240*	120*	30	400	400	500	2	1	4	2 50	360
Assistant Veterinary Surgeons of the 2d Class	1500	4 16	6 66	1 38	2 08	2 91	— 83	2 08	240*	120*	30	400	400	500	2	1	4	2 50	300

* This allowance is exceptional, and can be granted only when there is no room for the assistants in barracks.

Note.—In the above table, *Fr.* stands for *Francs*, which may be reckoned at 10*d.* each; and *C.* stands for *Cents*, or *Centimes*, 100 of which go to a franc: for example, the Principal's annual salary amounts to £104..13*s.*..4*d.*; the first class veterinary surgeon's to £91..13*s.*..4*d.*; the second class veterinary surgeon's to £83..6*s.*..8*d.*; the first class assistant's to £75; the second class assistant's to £62..10*s.*, exclusive of allowances.

In ratifying the foregoing regulations for the veterinary department of the army, the President of the Republic has done more for the amelioration of the veterinary profession, and the science which constitutes its basis, than every successive administration has effected for the last forty years. Prince Louis Napoleon alone has been able to estimate the value of such regulations to the interests of the army, and the advantage of a science the professors of which he has raised from a state of inferiority in which they have been too long systematically maintained, for which the veterinary profession owes him a deep debt of gratitude.

Recueil de Méd. Vét. Jan. 1852.

To the foregoing we annex a scale of the pay, &c. of veterinary surgeons of our own army.

Pay and Allowances of Veterinary Surgeons of the British Army.

Grade.	Daily Pay.	After 3 years	After 10 years	After 20 years	After 25 years	After 30 years	Forage.	Retirement.
1 Principal Veterinary Surgeon }	21s.	—	—	—	—	—	—	
30 Veterinary Surgeons }	8s.	10s.	12s.	15s.	17s.6d.	—	For two horses	{ After 25 years of servitude 10s. per diem; after 30 years, 12s. per diem.

* * * Travelling expenses at the rate of 5s. for miles under 10 and not exceeding 16; beyond 16 and under 32, 6d. per mile extra after the first 16 miles; beyond 32, 6d. per mile for the entire distance travelled.

Veterinary surgeons, on entering the service, take rank as cornets; after ten years' servitude, as lieutenants; after twenty years, as captains; it being understood that such precedence in rank be restricted to choice of quarters, &c.

Home Department.

COLLOQUIA DE OMNIBUS REBUS.

SCENE.—*A Literary Dissecting-room, with the Mangled Remains of Authors, in various stages of Decomposition.*

TIME.—*Evening.* COLLOQUII PERSONÆ.—*Medicus, Chirurgus, Obstetricus, Physiologus, Chemicus, and the Editor.*

Medicus. Do any of you know what that is?

Chirurgus. It has not a prepossessing odour.

Medicus. A pupil this morning said it reminded him of a negro ball in Jamaica.

Physiologus. I think it rather pleasant.

Medicus. So does Dr. Pereira. He says the odour is “powerful and fragrant” [*Pharm. Journal April 1852.*]

Editor. It has a most unmistakeable smack of aloes.

Medicus. And no wonder. It is the genuine *ὀπισμα ἐκ τῆς αλόης*,

THE NATURAL JUICE OF ALOES, fetid, and still fluid, as when fresh exuded from the plant on the shores of Araby the Blest. A London importer had it sent him the other day from the Red Sea, *via* Bombay, for the satisfaction of the curious; and Dr. Pereira has sent this sample down. You see it consists of a yellow granular magma, in a dark orange-coloured liquid. The yellow stuff is a mass of microscopic crystals of aloïn—indisputable aloïn—the principle discovered in Barbadoes aloes by Messrs. Smith, in Duke Street.

Chirurgus. If you are sure of that, you will relieve my mind of a great load on the score of organic chemistry. To confess the truth, I have never been quite satisfied that nature, and not the chemist, made all that legion of vegetable proximate principles,—such, for example, as our friend Dr. Anderson was telling us about the other evening at the Royal Society, in his paper on “Opium.” But this undoubted *educt* gives one some faith in proximate organic analysis. Are you sure it is aloïn?

Chemicus. Quite. I looked at it this morning under the microscope. The appearance is splendid, and entirely that of Smith’s principle. There can be no doubt of that.

Chirurgus. Tell us something more about it.

Medicus. Mr. Smith, from whom I got the liquid, gave me also this bit of *succus spissatus*, made by him from it, which has all the characters of the finest socotorine aloes—*λίπαραν, και*

αλιθον, στιλβουσαν, ὑποξανθον, or, as our own Pharmacopœia has it, “translucent, garnet-red, and almost entirely soluble in spirit of the strength of sherry.” It must be active. A friend, after merely tasting it, a little too incautiously perhaps, found next morning that he might as well have taken pil. al. comp. gr. x. If we could always get such an article,—and why not, if once?—or rather, why not aloïn from it, as it would be easily detached from the juice?—

Physiologus. But are you sure aloïn is the active, and only active, ingredient in aloes?

Obstetricus. I can speak for the activity of Smith’s aloïn. I have for some time past given it often as a laxative, from finding that a grain, or even less, did all the business of the best aloetic pill,—*tuto, cito, et jucunde*. The makers say that they have sold a quarter hundred weight of it. Depend upon it this substance aloïn should be looked to.

Medicus. Surely. We are no longer in a condition to maintain, as many have done against the substitution of proximate principles for crude drugs, that nature is the best druggist, and presents medicines in the fittest state for use. My experience, though more limited, is to the same effect with yours as to aloïn. Let it be fairly tried by all means. And in the mean time it is a satisfaction that a discovery so interesting, and possibly so important in practice, as that of aloïn, should have received from this juice so remarkable a confirmation; and, above all, that the discovery, in a very difficult branch of proximate analysis, which had foiled some of the ablest continental chemists, was made by a townsman of our own.—*To Chemicus.* What have you made of the birds I sent you?

Chemicus. What? Lord Selkirk’s pheasants? A clear case of Culpable Phasianicide,—of wilful

POISONING OF GAME WITH ARSENIC. Their crops were crammed with *acidum arseniosum*.

Chirurgus. Where did this happen? What is the story?

Chemicus. The gamekeeper at St. Mary’s Isle had lately seen, notwithstanding the healthiness of the season, a great many dead pheasants in the preserves; and on some occasions he observed them in the act of dying, when they were kicking abnormally, not at all like what he had often witnessed before in death from—

Editor. Lead—

Chemicus. Or other natural causes. So, having for some time had reason to keep his eye on one or two worthy people in the village, he got his Lordship to look a little into the matter.

And this is the result. A roasted pheasant with such stuffing would be no joke.

Medicus. But was there not some difficulty, in consequence of a neighbouring farmer having steeped his spring wheat in arsenic, for sowing a field hard by?

Chemicus. There was at first. On the other side of a ravine, on the hither bank of which lay the dead birds, there is such a field. I don't know, however, if arsenic was contained in the farmer's *steep*, or, consequently, in his wheat. But there was no wheat in the pheasant's crops—oats, pease, and haws, and grass roots in abundance, but no wheat. Therefore the cause, the agent, the purpose, and the habit and repute, are all equally evident. I wish the scoundrels had dined on them, or else left out the arsenic, that honest men might have done so.

Medicus. Console yourself with this new importation—these American partridges, which combine a rare whiteness and tenderness with a high game flavour; and are even finer, too, in July, judging from a single trial twenty months ago. This is no small an invention in the gastronomy of convalescence. The bird is almost twice the weight of an East Lothian partridge, and comes at a time when no other game is to be had of gastronomic note,—nothing save stringy ptarmigan and tarry capercailzies from Norway, a wild goose now and then from Gullane Links, or a stray whaup, or a lean wild duck, or a miserable leveret.

Editor. But is it a partridge? Its tail, which garnishes the dish, pheasant-like, is rather the tail of a hawk.

Medicus. And the cock has a black ruff. Still it is a partridge, the Drumming partridge of the Americans; or at least a *Tetrao*, the *T. Umbellus* of naturalists.

Monthly Journal of Med. Science, June 1852.

PHARMACY IN FRANCE.

THE pharmaciens in France are much in advance of the pharmaceutical chemists of this country, in their education and social position. Their regular organization as an educated body took place in the year 1803, and progressive improvements have subsequently been made in the regulations of the schools of pharmacy, in the examinations, and in the laws relating to the practice of pharmacy. The pharmaciens are completely isolated from the medical profession on one side, and from the grocers on the other. They have acquired an independent

position, and a scientific character. Yet much remains to be done. Experience has pointed out certain defects in the existing laws, and suggested amendments. Many efforts have been made to pass a new Pharmacy Bill, but hitherto this measure, although several times brought forward, has always, like the waters of Tantalus, eluded the grasp of its supporters, just at the moment that they thought the object was secured.

Pharmaceutical Journal for March 1852.

MENSTRUATION NOT ALWAYS PROOF OF THE ABSENCE OF PREGNANCY—A CAUTION.

Two years ago, in the month of February, a neighbour who owned a very fine mare called upon me, towards sunset, and asked me to look at his mare, for she was sick, and, he feared, dying, and he could not discover the nature or the cause of her distress, and he wished me to look at her, and, if possible, learn the character of the disease.

The animal had been in his possession about a year, and, for the last few weeks, she had been employed with another horse in drawing wood over a road that a part of the way was quite rough. The man who drove and groomed the team said he had not over-worked them, and could in no way account for the condition of the animal. The peculiar appearance of the mare led me to inquire of the owner and his man, and they both assured me, in the most positive manner, that she could not be with foal, as she had not been exposed to become so, and besides, what to them was equally positive evidence, she had had her periods of heat with a good degree of regularity during the entire season, and during the winter; and, as the men both remarked, those periods were more than usually apparent in her, from the change in her disposition at such times. According to their statement—and no doubt they were correct in their observation—but a very few weeks had elapsed since the occurrence of a menstrual period.

Although these facts were convincing to the owner in regard to the condition of the mare, they were far from being so to me, for I *knew* that members of the human family had menstruated while pregnant, and I was aware of no reason why similar laws (exceptions?) did not govern (exist in?) the equine that are known to exist in the *human* race.

Acting upon these views, with the consent of the owner, I made a vaginal examination, and was soon able to extract a dead foetal colt, of about two-thirds the full growth.

With proper care, the mare soon recovered her health, which, unfortunately, was not the case with the operator; and I proceed to record the following, as a proper caution to all who, like myself, may be led to become amateur practitioners upon the domestic animals.

The colt, previous to its birth, had commenced to putrefy, and, after giving directions in regard to the management of the dam, I proceeded to wash my hand and arm with care, in order to remove the putrefactive odour it had contracted from the colt. For this purpose I used strong soft soap and plenty of cold water. After a thorough ablution I raised my hand to my nose, and, finding that the odour was still perceptible, I again washed with care, and this time with *warm* soap suds, and rinsed with pure warm water.

After two or three days my arm became severely inflamed, and swollen nearly to the shoulder, and soon suppuration occurred, and I was weeks before the arm became sound, and months before I regained my former health.

It is *not* unknown to physicians and surgeons, that animal matter, when undergoing decomposition, passes through a kind of fermentative process, in which a poison is generated, that, if absorbed by the living tissue, is liable to cause a *similar* fermentation in the living flesh, which tends to destroy the part affected, or the life of the patient.

Let all who have to do with diseased animals exercise all due caution that they do not become inoculated with the matter from wounds, or *they*, too, may have a *case* to record that is much more pleasant to present to the public than to suffer *in propria persona*.

C. H. CLEAVELAND, M.D.

Waterbury, Vt., March, 1852.

Remarks.—We hope the above communication will serve as a *caution*, and be regarded in the light of a *warning voice* from one who has *suffered*, and now comes forward, under generous impulses, to save his fellow-man from a fearful death; yes, *death*; for every medical man is well aware of the dreadful penalty that almost universally attends the inoculation and absorption of morbid pus, virus, &c. We hope the caution will have its weight with all to whom the facts are unknown. Many valuable lives, within our own remembrance, have been lost through recklessness in opening the bodies of cattle with a view of ascertaining the cause of their death: the operators, some of them, not knowing that it is a dangerous business to make *post-mortem* examinations of such animals as have died from diseases of a putrid type, or even handle animal or vege-

table matter when in a state of putrefaction. The particulars of the unfortunate occurrence that befell Dr. C., together with the subsequent treatment, are recorded in one of the medical journals.—ED.

American Veterinary Journal, April 1852.

HOW MR. COPER SOLD A HORSE, AS TOLD BY THE MAN DAVIS.

“ Mr. Coper, as kept the Red Lion Inn Yard, in —— Street, was the best to sell a hoss I ever know’d sir; and I know’d some *good* ’uns, *I* have; but he *was* the best. He’d look at you as tho’ butter wouldn’t melt in his mouth, and his small wall eyes seemed to have no more life in ’em than a dead whiting’s. My master, Captain ——, stood his hosses there, and, o’ course, I seed a great deal of Mr. Coper. One day a gent came to look at the stable, and see if he could buy a hoss. Coper seed in a minute he know’d nothin’ about hoss flesh, and so was uncommon civil. The first thing he show’d him was a great gray coach hoss, about seventeen hands and a inch, with shoulders like a Erkilus.”

“ I suppose you mean Hercules.”

“ I suppose I do, sir. The gent was a little man, so, o’ course, the grey was taken in agen, and a Suffolk Punch cob, that ’ud a done for a bishop, was then run up the yard. But, lor! the little gent’s legs ’ud have never been of any use to him; they’d a’ stuck out on each side like a curricule bar—so he wouldn’t do. Coper show’d him three or four others—good things in their way, but not at all suited to the gent. At last, Coper says to him, with a sort of sigh, ‘ Well, sir, I’m afeard we shan’t make a deal out of it to-day, sir; you’re werry particular, as you’ve a right to be, and I’ll look about, and if I can find one that I think ’ll do, I’ll call on you.’ By this time he had walked the gent down the stable to opposite a stall where was a brown hoss, fifteen hands, or about. ‘ Now, there ’ud be the thing to suit you, sir,’ says he, ‘ and I only wish I could find one like him.’ ‘ Why can’t I have him?’ says the gent. ‘ Impossible,’ says Coper. ‘ Why impossible?’ says the gent. ‘ Because he’s Mrs. Coper’s hoss, and money wouldn’t buy him of her; he’s perfect, and she knows it.’

“ ‘ Well,’ says the gent, gettin’ his steam up, ‘ I don’t mind price.’ ‘ What’s money to peace of mind,’ says Coper. ‘ If I

was to sell that hoss, my missus would worry my life out.' Well, sir, the more Coper made a difficulty of selling the hoss, the more the gent wanted to buy; till at last Coper took him to the coach hus, as tho' to be private, and said to him in a whisper, 'Well, I'll tell you what I'll do; I'll take ninety pounds for him; perhaps he's not worth that to every body, but I think he is to you, who wants a perfect thing, and ready made for you.' 'You're very kind,' said the gent, 'and I'll give you a check at once.' 'But, mind,' says Coper, 'you must fetch him away at night; for if my missus saw him going out of the yard, I do believe she'd pull a life-guardsmen off him. How I shall pacify her, I don't know! Ninety pounds! why, ninety pounds won't pay me for the row, and leave alone the hoss!'

"The gent quite thought Coper was repenting of the bargain, and so walked away to the little countin' house, and drew a check for the money. When he was gone, I burst out a laughin'; because I know'd Mrs. Coper was as mild as a bran mash, and 'ud never a dared to blow up her husband; but Coper wouldn't have it—he looked as solemn as truth. Well, sir, the hoss was fetched away that night."

"But why at night, Davis?"

"Because they shouldn't see his good qualities all at once, I suppose, sir; for he'd got the Devonshire coat-of-arms on his off knee."

"Devonshire coat-of-arms?"

"Yes, sir; you see Devonshire's a very hilly country, and most of the hosses down there has broken knees, so they calls a speck the Devonshire coat-of-arms. Well, sir, as Mrs. Coper's pet shied at every thing and nothing, and bolted when he warn't a shying, the gent came back in about a week to Coper."

"'Mr. Coper,' say he, 'I can't get on with that hoss at all—perhaps I don't know how to manage him; he goes on so odd that I'm afraid to ride him; so I thought, as he was such a favourite with Mrs. Coper, you should have him back again.'"

"'Not if you'd give me ninety pounds to do it,' says Coper, looking as though he was a-going to bite the gent."

"'Why not?' says the gent."

"'I wouldn't go through what I have gone through,' says Coper, hitting the stable-door with his fist enough to split it, 'not for twice the money. Mrs. Coper never left off rowing for two days and nights; and how I should a' stopped her I don't know, if luck hadn't stood my friend; but I happened to meet with a hoss the very moral of the one you've got, only, perhaps, just a little better, and Mrs. Coper took to him wonderful. I wouldn't disturb our domestic harmony by having that hoss o' yourn back again, not for half the Bank of Eng-

land.' Now the gent was a very tender-hearted man, and believed all that Coper told him, and kept the hoss; but what he did with him, I can't think, for he was the wiciousest screw as ever put his nose in a manger."

American Veterinary Journal, April 1852.

BLANKETS FOR SHEEP.

THE following article may contain valuable hints for some of our wool-growing friends:—

A writer in a late number of the London Agricultural Gazette says, "We find on examining our mortality tables for the last twelve months, that out of six hundred Cheviot and black-faced Evehogs, the number of deaths has been but sixteen. Be it remembered also, that, with the exception of about a score, none of these ever tasted a turnip, but fared with the ewes on the hill. Since we commenced the use of jackets (small blankets), we have especially noticed an extraordinary diminution of the cases of "sturdy," or water in the head. Hydatids in the brain are generally understood to be induced by long-continued heavy rains, cold winds, and general privation. Any one conversant with sheep must have observed the wool along the back parts in such a way as fully to expose the skin. The connexion between the spine and the brain is obvious, and it cannot be wondered that hydatids (little sacs filled with water) should be formed in the brains of sheep much exposed to severe storms, without due shelter. Hence the advantage of covering their backs with some material which will protect them, in a great measure, from the chilling effects of wind and rain. The material used is woollen, the size being 23 inches by 15. We lately purchased some coarse blankets that made excellent covers, each jacket costing four-pence. The rams were put with the ewes on the 22d of November, and we allow forty-five to each male."

The above remarks, from a flock-master of large experience, in reference to the cause of hydatids, or what we should call water in the brains of sheep, are interesting in a medical and physiological point of view. We know one breeder, in Vermont, who covers the back of each sheep with half a yard of common sheeting, painted, to shed rain. The practice is founded in reason, and is likely to extend, literally making cotton tributary to the production of wool. The growers of the former staple will not object if every sheep in the United States and Europe has a cotton "jacket;" for one that will answer every intention, can be made cheaper of cotton than of wool. The comfort of domestic animals at the South is sadly and most expensively neglected.

Southern Cultivator.

CHLOROFORMING A GRIZZLY BEAR.

"ON the 5th of November, 1850, the first operation of the sort was performed on one of those grizzly bears, which was blind in both eyes. As this detracted materially from his value, it was decided to endeavour to restore him to sight; and Mr. White Cooper having consented to operate, the proceedings were as follow:—A strong leathern collar, to which a chain was attached, was firmly buckled round the patient's neck, and the chain having been passed round one of the bars in front of the cage, two powerful men endeavoured to pull him up, in order that a sponge containing chloroform should be applied to his muzzle by Dr. Snow. The resistance offered by the bear was as surprising as unexpected. The utmost efforts of these men were unavailing; and, after a struggle of ten minutes, two others were called to their aid. By their united efforts, Master Bruin was at length brought up, and the sponge fairly tied round his muzzle. Meanwhile the cries and roarings of the patient were echoed in full chorus by his two brothers, who had been confined to the sleeping den, and who scratched and tore at the door to get to the assistance of their distressed relative. The large sloth bear in a cage on the other side joined heartily in the chorus, and the Isabella bear just beyond, wrung her paws in an agony of woe. Leopolds snarled in sympathy, and laughing hyænas swelled the chorus with their hysterical sobs. The octobasso growling of the polar bears, and roaring of the lions on the other side of the building, completed as remarkable a diapason as could well be heard. The first evidence of the action of the chloroform on the bear was a diminution in his struggles; first one paw dropped, then the other. The sponge was now removed from his face, the door of the den opened, and his head laid upon a plank outside. The cataracts were speedily broken up, and the bear was drawn into the cage again. For nearly five minutes he remained, as was remarked by a keeper, without knowledge, sense, or understanding, till at length one leg gave a kick, then another, and presently he attempted to stand. The essay was a failure; but he soon tried to make his way to his cage. At length he blundered into it, and was left quiet for a time. He soon revived, and in the afternoon ate heartily. The following morning, on the door being opened, he came out, staring about him, caring nothing for the light, and began humming, as he licked his paws, with much the air of a musical amateur sitting down to a sonata on his violoncello."—*Zoological Anecdotes.*

THE VETERINARIAN, JULY 1, 1852.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

IN the report of the Proceedings of Council of the 25th May last, contained in our Number for June, a motion was made and discussed, *that the fee at present demanded of the veterinary pupil for examination be reduced from ten to six guineas*; thereby diminishing the total of his expenses of professional education by four guineas. In favour of the motion it was argued—that the two full sessions of attendance at the Royal Veterinary College, at present required, entailing upon the pupil additional expenses, he could but ill afford paying a fee for examination which, in comparison with that demanded for his lectures, &c., was disproportionately high;—that the standard of the profession would not be raised by making it a *money standard*;—that the ten-guinea fee operated in deterring young men entering the veterinary profession;—that it was unfair to tax them that did enter with the expenses of working the Charter;—that the Chartered College being now out of debt, such increase of fee was not called for;—that no adequate return was made for it;—that at the time when five guineas were paid for examination and five for admission into the Corporation, many candidates refused to pay the latter on the ground of its being *extortion*;—and that the *quid pro quo* argument was especially applicable now that young men could be admitted both into the Indian army and our own without passing the Examining Board of the Royal College of Veterinary Surgeons: “Shame!” said Professor Spooner, “it should be so;—that there should be sitting at this Board a man who could unblushingly say ‘through my aid it has been effected!’”

To these arguments it was opposed,—That a candidate for diploma ought to consider himself highly favoured by having an opportunity afforded him, by the payment of ten guineas, of placing himself in a position which others had been ten years in acquiring; that it was not for the mere piece of paper (the diploma) the pupil paid ten guineas, but for the reputation such a position gave him; that it had not been shewn that any falling-

off in the numbers examined had resulted from augmentation of the fee;—that its reduction would not obviate the evil of persons practising (as veterinary surgeons) without diplomas, since many had done so with certificates from the Veterinary Medical Society (which they palmed on the public as diplomas);—that the ten-guinea fee had nothing to do with such practices, in proof of which might be adduced the “downward progress” of the Edinburgh School;—and that the dignity of the profession demanded a high rather than a low fee, the latter of which could not fail to introduce a class of men into the profession whom we were much better without.

From the foregoing statements and arguments, we gather, that the question at issue really and in truth narrows itself into the compass and consideration of the difference between ten guineas and six,—*alias*, into four guineas; a sum we would fain suppose as too low of itself to have, even on the aspirant in the veterinary world, such influence and effects as have been attributed to it. It was admitted at the Council Meeting, that the ten-guinea fee had not diminished the number of pupils entering at the Veterinary College; it was also shewn that, taking an average of years, no computable difference had been observed in the candidates for membership; nevertheless, there seemed to be a feeling prevalent, that such numbers would undergo augmentation providing the “heavy” fee for examination were diminished. That ten guineas, taken as a whole, may be a sum not at all times so easily raised among veterinary pupils at the time it is required, we can very well understand; but that the reduction of that sum by four guineas only can make the material difference between a pupil going up for examination and staying away, we cannot quite so clearly comprehend. If the objects be cheap education, cheap examination, &c., more candidates may be, no doubt, allured by the reduction plan; but does this additional influx constitute all that we are fighting or caring about? Rather, would not such augmentation to the veterinary body in effect weaken instead of strengthen it, seeing we could not maintain the same standard of qualification and respectability we have even raised for ourselves up to the time being?

But there is another view—the *quid pro quo* side of the question—to be taken: in other words, does the candidate for M.R.C.V.S. receive money's worth for his fee of ten guineas? or is what he receives worth but *six* guineas? Really, honour and reputation, and such like commodities are, now-a-days, so variously valued at the hands of various people and different individuals, that it has become a difficult matter to set a price upon such *stuffs* in pounds, shillings, and pence. The Royal College of Surgeons charge for their diploma for membership £22, and for their Fellowship £10 in addition; whilst the Worshipful Company of Apothecaries—whose diploma it is really, *by law*, absolutely necessary to be possessed of, in order to practise as a surgeon-apothecary—costs but ten guineas; yet this difference is not found to deter the majority of hospital medical pupils from becoming either members or fellows of their own college. That our own corporate honours are worth ten guineas, or six, or even one guinea, we will not pretend to determine, further than that, if they are not worth one sum they are, probably, dear at either of the other sums; and that, if the Council were to resolve to reduce their nominal value still lower, they would in a very short time become altogether valueless, and even despicable. Let us beware how we enter into resolutions to make *cheap* veterinary surgeons!

There is yet another light in which this question may, and indeed ought to be, viewed; and that is, as it regards the corporate body of the Royal College of Veterinary Surgeons. Like other chartered bodies, it cannot support even its *nominal* existence without funds. It has created members; those members have appointed President and Vice-Presidents, as well as Examiners, and, moreover, have made bye-laws for their rule and governance; but as for a College, save in the name of one, none do they possess, none do they appear likely at present to possess, and certainly none ever will they possess, if the pupils' fees for examination—the *sole* ostensible source of income they possess—are to be cut down to barely sufficient to defray the obligations of examination. Look at the College of Surgeons in Lincoln's-inn-fields! Does any member of it suppose that such a structure would ever have been erected, and endowed in its

present form, had the fees for examination and admission of its members and fellows not fallen into the treasury of the College?

To conclude: for our own part, we think the contribution levied, fair and legitimate. Every new member admitted ought to be obliged to contribute towards that which others have raised, no less for his than their own good, at a cost of £600, in the privileges and benefits of which he is about fully to participate. He ought not, he cannot in reason, expect less. And if, in the face of this clearly obligatory duty, he should object on the score of the magnitude of the sum he is charged with, let him be told, in answer, that he is required to do no more than numbers have done before him, and no more than is absolutely needed for the necessities of a College to which now he has the honour to belong.

THIS and last month having afforded us an opportunity of submitting schedules of the rank and pay, &c. of veterinary officers of two, and them two of the principal, of the continental armies, the French and the Belgian, we have annexed a scale of the like honours and remunerations enjoyed by British army veterinary surgeons. Not that we have done so by way of making any comparisons or drawing any comparative inferences between the three national departments, since their relative pecuniary advantages must, of course, be considered only in reference to the prices of provisions, apparel, &c. in the countries in which the respective armies are serving; but that we may offer a word of remark on one or two palpable and striking national differences in other respects, which seem worthy of our notice, if not of our imitation.

A remarkable point of difference demanding our attention is the number of grades continental army veterinary surgeons are divided into as compared with our own, among whom, in point of fact, setting the Principal Veterinary Surgeon aside, there exists no grades or classes whatever. Cavalry regiments in the French and Belgian services would appear to have their first and second class assistant veterinary surgeons, and their first and second class full veterinary surgeons; though what special or particular share of duty is allotted to each rank or

grade we are not just now prepared to inform our readers. Be this, however, what it may, that the system must be one which has obvious advantages over ours is in similar departments admitted even by our own army authorities, seeing they have sanctioned the institution of similar grades and classes among *surgeons* both of the army and navy. Our cavalry regiments may not be considered as of magnitude sufficient to require or be able to employ more than a single veterinary surgeon ; and, were the regiments maintained entire in their quarters or stations, such would really be the fact. When, however, regiments are parted into divisions and detachments, it is frequently, perhaps generally, more than one veterinary surgeon can do to attend properly, or even at all under some circumstances, to them all. In such cases an assistant would be found of essential service, and most probably, were the calculation properly made, be really, through a series of years, found to be a saving, instead of an addition to the annual cost of the regiment. Be this as it may, one great advantage the service would derive from it is too palpable to admit of any argument at all ; and that is, the especial fitness such assistants would acquire for performing the duties of *full* veterinary surgeon to a regiment : a post which, to be properly and advantageously maintained, calls for a great deal more practical knowledge and experience about horses than young men possess on their entering the service *ab incipio*. The medical attainments candidates are found to possess, require the finish of practice to make them efficiently and serviceably available ; while several supplementary acquirements, such as a knowledge of horses, as to buying, passing, and selecting suitable ones for the service ; a knowledge of stable discipline, ventilation, forage, &c. as well as of the business of the forge ; must be added, ere a veterinary officer can be regarded as efficient for the service. All this he would have an opportunity of learning under the tuition of an able and experienced officer of his own profession, had he the advantage afforded him of serving some years as assistant before he became entrusted with the responsible office of full veterinary charge of a regiment.

Looking over the French schedule, we perceive a column set

apart for *extra* pay for remount duty. This in our service is not officially announced or even acknowledged, though there hardly exists a regiment of British Cavalry in which the veterinary surgeon is not, more or less, employed in the procuring or purchasing of remount horses. We do not mean to allege that regimental veterinary officers are not remunerated for this additional duty; we only say, no *official* notice is taken of such service in ours as in the French army regulations; a circumstance which in our eyes amounts to an omission, since the requirements of the veterinary surgeon in that department are sufficiently acknowledged by the calls continually made upon him. Whether the present mode pursued of obtaining remount horses be the preferable one or not, is a question which has, both in military and veterinary quarters, been productive of some differences of opinion, and this on some occasions has been followed up by the suggestion of other schemes and plans for the purpose.

It will be seen, we have received another communication from Mr. Hurford, V.S. 15th Hussars, on the subject of the utility or efficacy of gentian root as an "auxiliary cathartic." It will be remembered that, so far back as October 1851, we published part of a letter we had received from this gentleman, then at Bangalore, in India, with his regiment; and that in the month after, November, there appeared in THE VETERINARIAN letters from Messrs. Howell and Brown, confirmatory of the opinions of Mr. Hurford: the former promising at the time to forward for publication an account of some experiments he had made to test the gentian. These, as will have been discovered, are now come to hand.

Mr. Hurford, in his letter, regrets the "apathy" of the profession on a subject which, we must for our own part confess, seemed calculated in our eyes to command attention. Our staple cathartic being aloes, and this being in such extensive and every-day use among us, we should have thought that any thing said to possess the property of adding efficacy to it, or of rendering it equally efficacious in diminished doses, would have quickly drawn down sundry remarks thereupon. Some may say, and with truth enough, there is nothing new in medicine in the fact of simple bitters, of themselves, in our own persons at

least, having a laxative operation on the bowels, and that they have long enough, for this and other reasons, been used by medical men in combination with cathartics. Nevertheless, this is not a fact which appears to have been acted on in veterinary medicine. Mr. Hurford is the first to inform us of its application, and we are now called on to bear testimony either to its truth or to its want of foundation. If three drachms of aloes, in combination with an equal quantity of gentian root, will purge a horse with the same effect as double the dose of aloes without the gentian, then must the latter be regarded as a truly valuable adjunct. For the present, until the question be further discussed, we have nothing further to say about it. We have ourselves made, and are about instituting afresh, experimental researches into the matter. Any results we may obtain, however, we had rather withhold the publication of until such time as some more of our friends shall have favoured us with their opinions on the subject.

MISCELLANEA.

FIERY STEEDS.

A MAN of the name of Murray, who lives near Creybilly, had two horses, last week, which were suffering from mange, a dangerous disease, and one not easily to be removed. Murray was advised by some veterinary surgeon to wash his horses with spirits of turpentine, and then anoint them liberally with coal tar. The horses were accordingly duly washed with the one, and covered with the other. These substances, as many people are aware, generate gas, which ignites the moment it comes in contact with fire. Murray came to his stable with a lighted candle, to see in what state his horses were; which he had no sooner entered than the gas exploded, carrying away part of the floor and roof of the stable, and at the same time setting both horses on fire. The horses being loose, one of them ran out at the door and galloped across the country until the fire was extinguished and its strength exhausted; the other, in attempting to follow it, ran with such violence against the lintel as to dash his brains out. Murray, imagining some fiery spirit from another world was at work, called for help; but it came not until his horse had been killed, his stable destroyed, and himself nearly frightened to death.—*Coleraine Chronicle*.

DIPLOMAS GRANTED, MIDSUMMER 1852.

THE following gentlemen have this year passed their examination before the Board of Examiners appointed under the Royal Charter of Incorporation, and have received the diploma of the Royal College of Veterinary Surgeons :—

SCOTLAND.

May 5th.

John Fisher, Whitehaven, Cumberland
Robert Stratton Wilson, Ashbourne, Derbyshire
John Bowman, Fassgate, York
Joseph Ball, Manchester.

ENGLAND.

May 19th.

Edward Darlington, London
Robert Walter Murray, Cork, Ireland
Henry Etridge Wilkinson, Gateshead-on-Lyne
William Hastings Farrow, London
William Broughton, Woodhouse, Leeds
George Bentley, Grantham, Lincoln
John Dixon, London
Charles McMahon, Dublin.

May 26th.

Jesse Osmond Vincent, Newbury, Berkshire
Edward Kelly, Dungarvon, Waterford
John Callow, Lindfield, Sussex
John Hammond, Saxlingham Notts., Norfolk
Jonathan Briggs, Selby, Yorkshire
John Gamgee, London
John James Turner, Durham
George Edwin Pearce, Camelford, Cornwall
John Robert Moxon, London
John Betts, Tittleshall, Norfolk.

June 2d.

Thomas Edward Hobson, Narborough, Leicester
James Churchill, Colchester
William Shoeland, Beccles, Suffolk
Joseph Woodger, London
John Bunn, Wimondham, Norfolk
William Skoulding, Wimondham, Norfolk.

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CONTRIBUTIONS TO VETERINARY MEDICINE.

By WM. GAVIN, M.R.C.V.S. Malton, York.

Inflammation of the Plantar Absorbents.

To the Editor of "The Veterinarian."

DEAR SIR,—In one of your Numbers, which I have not by me at present, there is a very excellent article on this disease, and I merely send you this contribution in addition to what the author of the paper I allude to has stated regarding it. I am sorry I cannot recall his name at present.

The disease is usually considered a sthenic one. From what I have seen, it does not appear to me that the animal's condition at the time has much to do with its production. I have met with it in animals in every state of condition, most frequently, however, in good, and always used in draught; never in thoroughbreds, unless the result of accident. Bleeding and physicing, which so rapidly produce amelioration in the plethoric, is inadmissible in very poor patients, but in these last I have never had any cases of suppuration. The age of the animal does not appear to affect the occurrence of this inflammatory action. The rule of its occurring on a Monday or Tuesday morning has some exceptions, though not many, and its nearly always taking place in the near hind leg, has as few exceptions as the other. I met with it *once* in the off fore leg. It is attended with intolerable pain and great irritative fever. The smallest pressure on the course of the vessels produces a sudden catching up of the leg, which remains flexed for a second or two (relieving the pressure arising from the skin), and then it is gently put down again. I did not observe this in the fore leg (the glands in the axilla were involved), which was kept stiff and straight.

I shall not trouble you with any cases of complete recovery, but remark that I have three times seen it end in suppuration, one of which was fatal. The first of these occurred on Feb. 3, 1848, in a roan draught mare, half bred, which was

out and sound on Tuesday night, and lame, with great pain in the off hind leg, the next morning. The owner bled her, and the morning after, I found her with her leg considerably swelled and great pain in it. The saphena was very large, the inguinal gland tumefied and painful. The usual catching of the leg was present, also an unwillingness to let the foot touch the ground, totally distinct from that arising from pain in the foot. The only apparent lesion, a cracked heel; a grave amount of irritative fever present; pulse 108, hard; breathing irregular; skin, during exacerbations, hot and dry; during intermission, covered with perspiration.

V. S., *q. s.* Inserted a seton in the chest, (too far away to do any good, I think,) Aloes in solution *ziv*, loose hay, mash, fomentation, &c.

The swelling increased slightly the next day, and that of the glands became more diffuse. Not to trouble you with tiresome particulars, the inflammatory action went on to one of its high grades—suppuration. Small ulcers broke out in the course of the absorbent vessels, distant from each other about half a foot, one after another, beginning at the foot. The glands in the groin escaped the suppuration, and the wounds healed in a short time, but left a thickened limb to a slight extent.

The fatal case I attended on Dec. 2, 1849, up to the 5th, when the patient was recovering rapidly. I was requested (on the score of expense, I suppose,) to discontinue my attendance. I was sent for again on the 7th, at night, in a great hurry, and could only tell the owner, the mare must die in a few hours; suppuration and absorption had taken place in the leg (near hind), and a *post-mortem* showed the lungs very much injected with the pus. No ulceration had taken place in the leg. I presume, the exacerbations of the fever had taken place at night, so as to escape notice.

The 3d case occurred Feb. 2, 1852, and was destroyed in the middle of May. It was that of a young grey mare, like the others used for draught; was seized with an attack of gripes, under which she bruised her hock in kicking, for which bruise the village farrier the next day bled her at the toe, not by making a clean incision, but by scraping away horny sensible sole to the bone, and then I was sent for as the leg began to swell. This makes it difficult to determine whether the injury or indigestion was the primary cause. The glands in the groin and the absorbents of the leg were inflamed, and went on to suppuration and ulceration, but a long time intervened between the appearance of the first ulcer near the heel, and the final closing of the last in the groin. The

swelling attendant on the suppuration of the glands sometimes reached more than half way along the abdomen, and the abscesses repeatedly healed and broke out again. The treatment at first was antiphlogistic, but had soon to be changed for tonics, wine and milk, of which last she drank quantities. This leg (near hind) was hardly partially restored before laminitis took place in the opposite foot (from having to sustain so much extra weight for so long), and ended in my having to remove the sole. This, however, was doing well, when large abscesses formed about the spine of each ilium, discharging profusely. This helped to reduce the patient still further, and was brought on by pressure when lying, aided by the lean condition of the mare. Latterly she lay a great deal from debility as well as pain.

The owner now had her destroyed. Unfortunately I had not an opportunity of making a *post-mortem*, but I am inclined to believe that the system in this case also was contaminated from absorption, by reason of the mare's continued ill health and constant bad condition, notwithstanding all that was done for her.

Season does not appear to influence the production of this disease, as far as I have seen; neither am I possessed of sufficient statistics to decide as to any preference it may manifest for sex. These three cases were all mares.

For the solution of its production, three views present themselves: 1st. Disorder of the digestive system, creating an inflammatory diathesis. 2d. Proneness to metastasis, similar to laminitis, from overloaded stomach. In the second view I notice, its great frequency in draught horses, principally those of agriculturalists; that diseases of the digestive organs are the most frequent of any in these subjects; that surfeit may produce more chyle than the lacteals can readily get rid of; that the state of repletion will tend to place all function but that of the digestive system in abeyance; that this will favour accumulation of chyle in the absorbent system of the trunk; that this will render it desirable the plantar supply should cease for a time; that obstruction takes place first in the axillary or femoral glands; that this is probable from the structure of internal tunic of the intraglandular absorbent vessels; that the greater venous vascularity of the trunk may relieve the lacteal system to a greater extent than the lesser venous vascularity of a limb may be able to relieve its absorbents; that this is more the case at the inferior extremity of the limb than at the superior, as inferred from the manner in which the swelling increases; that the plantar

veins do not possess the function of absorption in the same degree as those in the abdomen.

The third view is, derangement of the digestive system, causing unequal circulation, impairing the function of the terminal membrane of the absorbent glands by being too inactive or producing the same result through congestion.

At all events, the point to be ascertained is whether or not the inflammatory action *begins* in the superior glands or in the absorbent vessels near the part; and if in the glands, whether those of the trunk are first deranged or those of the limbs. This is difficult to determine. In all the cases I have ever seen I found enlarged glands at first, even where the limb was very little swollen. I have not accepted any of these views as definite, but merely state them for the consideration of others.

Phlebitis.

This disease occurred in the jugular vein of a mare I attended for colic two or three years ago, and was caused by too extensive an incision through the vein and skin, when bleeding her. I fastened the wound up securely, and all went on well till the third day, when suppuration took place. The wound opened and disclosed a healthy granulating surface, which soon accomplished reunion, the vein remaining perfectly entire. This was rather remarkable, as the ordinary rule is, that all reunion by the first intention is destroyed on the advent of suppuration. This apparently did not apply to the cicatrix in the vein.

I attribute the fortunate termination of the case, to having the head tied up, and giving her nothing to eat for the first two or three days.

Uterine Disease.

This case occurred in a chesnut mare, which had suffered for a long time (two years, I believe,) from profuse leucorrhœa, accompanied with great discharge of gas *from the uterus*. The mare had always been poor, and could not be got into anything like condition on any diet. I suspected a fistula at first; but the most careful examination failed to detect any disease of the kind. The os uteri I always found widened. I used solution of Silver, Copper, &c. to the uterus, apparently with benefit; but the mare was sold out of the way on account of incurable ostitis in one of the fore legs.

Should any of your readers meet with such another case,

and wish to inject the uterus, they must use a syringe with two nozzles, *a* and *b*; *a* to insert into the uterus, and *b* fixed to the syringe to insert into *a*. If Nit. of Silver is used, the syringe must be of glass.

Distemper.

The subject of the disease usually known under this name, was a black and tan terrier, which had been treated by the owner with repeated doses of Ol. Ricini, and of course went on from bad to worse.

I found the dog very far gone in the disease, without any appetite, suffering much from paralysis agitans, very weak, and unable to walk. I prescribed Ferri Sulph. (a favorite remedy with many practitioners), in solution, for two days, which was attended with a little benefit for the first few hours; but the patient relapsing into his former state, I changed the Iron for gr. ij Quininæ, every three hours; and this, continued for two or three days, produced a great amelioration. He can now run about, and is rapidly recovering. I have also used Quinine for an analogous disease in horses, viz. Influenza, with very great benefit. In some subjects with whom it appears to disagree—its first administration is attended with giddiness or vertigo, to a degree threatening fainting; but these seemed to me to be the cases ultimately deriving the most benefit from its administration.

Iron is usually given under the idea of its increasing the amount of red corpuscles in the blood, and its good effects are usually attributed to its having acted so. From this view I am inclined totally to dissent, principally because we can obtain an intensely red-coloured solution from the blood, which will not yield a trace of Iron. Setting this, however, aside, every one who has taken Iron, even in a nauseating dose, must remember the acute sensation of hunger which almost immediately follows; and this is evident proof that it possesses the power of rousing the nervous centres. Hence I would infer, that its action is not the round about one generally supposed, but a direct one. This, however, I will leave your readers to decide for themselves.

Acute Meningitis.

In your last Number, Mr. Editor, there is a "doubtful case" by a Veterinary Student, and the silence with which you meet his very natural request for your opinion on the matter is so unusual, that I should presume it is owing to your

being occupied very much with more important matters. Cases of the kind described I should think are pretty frequent ; at least I have met with several in the course of the last four or five years.

In walking along-side a ditch or drain, the animal's hind foot either slips in, or the edge of the bank gives way, and the effort at recovery precipitates him into it, the spine lying in the far corner, and the legs packed between the body and the opposing bank. I have seen horses tumble in this way ; and should the drain have perpendicular sides, as most of them have, it is impossible for him to extricate himself, and his continued efforts to do so by and bye completely exhaust him, to say nothing of other injuries. There being water in the drain makes the matter worse.

All the cases I have seen occurred in this way, and presented at first paraplegia, with cold surface and extremities, and great depression, followed by corresponding reaction. The increasing inflammatory action in the spine is very well marked.

One of the cases I remember very well, and this, as it proved fatal, may be more interesting than any of the others. It was a chesnut horse of great size, belonging to a farmer on Yorkshire Wolds, who met with the accident in the way I have said, presenting at first paraplegia, without, however, loss of sensation or circulation, total loss of motion, except in the head and neck, and latterly also in the spine, with partial loss in the fore extremities, the pulse getting harder every day. The treatment, antiphlogistic and counter-irritant, was unsuccessful, the animal dying, lasting about a week. I had him slung up in the field, but the owner injudiciously attempted to remove him home, which, after a great many falls on the part of the horse, he was unable to do. How far this affected the animal's death I will not say, but a *post-mortem* showed great inflammation of the meninges of the spinal chord, and great effusion of serum : I also removed a coagulum of blood, about a foot and a half long, from the spinal canal ; at what period this coagulum was effused I cannot determine, but I should think not at first. Another case, a grey brood mare, belonging to Mr. Scott, White-wall Corner, occurred the same way as the other, but was not by any means so serious a case ; nevertheless, the injury to the spine was very apparent. This case did well. Stimulants are quite inadmissible at first, for the same reason that we do not put a half frozen man near the fire, or give him hot brandy and water.

The "Veterinary Student" says nothing about the spine in

his paper. I should infer that the solution of the mystery lay there, so that the Veterinary Student was perfectly right in his diagnosis. He very probably had had cases of the sort before, otherwise I consider the symptoms of the Veterinary Student's case might possibly mislead any one who had not had a previous case.

No dependence, I think, can be placed on the diseased appearances the Veterinary Student found in the abdomen, as the nervous system has no control over the circulation, and the effects of the disease must not be mistaken for the disease itself.

In reply to the three questions, I would answer to the first, over-excitement of the nervous system, the spinal chord being the part immediately to suffer. To the second question I should think, *not*, but that the mucous surfaces of the stomach, &c., happened to be the weakest organs of the body, at a particular stage of the disease. To the third, it is probably the first case of the sort the Veterinary Student has seen.

I must remark that, simply not to stimulate forms a part of the antiphlogistic system.

The Expansion of the Horse's Foot.

In your last review of M. Bouley's work, (*'Veterinarian'* for March, 1852,) allow me to think that that gentleman is very far from doing Mr. Gloag justice. He mentions Mr. Reeve's experiments as being perfectly conclusive, and talks of those of his opponent, as if they were nothing very particular, when the truth of the matter, at least to my thinking, is that Mr. Reeve is clearly defeated. It does not appear that the last-named gentleman has clearly invalidated any of Mr. Gloag's experiments, although Mr. Gloag has drawn deductions favorable to himself from his opponent's statements. Mr. Reeve has furnished more opportunities than Mr. Gloag has taken advantage of, but these I should wish every one to see for himself.

Before deciding the question in the easy way M. Bouley does, I would request all those who have not finally determined the matter, to sit down alone for five or six hours, and deliberately examine the evidence *pro* and *con*; and the fact of a majority of the profession being on the side of expansion ought not to weigh, as the majority, more particularly in the case of the arts and sciences, so far from being right, are nearly always *wrong*.

There are always leading minds in advance of the age in which they live, but who, unfortunately, are seldom believed just then, and Mr. Gloag's is the leading mind in this case.

He has reduced the expansion of the horse's foot from an amount requiring jointed shoes, one side nailing, and I know not what beside, to an amount measured by a thin sheet of tin. (See the admission of Mr. Reeve, '*Veterinarian*' for 1850, p. 199, in which M. Bouley concurs) How ought these admissions to affect practical shoeing, or rather Mr. Gloag's proved theory of the descent of the heels? and how ought they to affect our future efforts to understand truly the physiology of the foot? All this we owe to Mr. Gloag; and is it nothing? Another gentleman objects to some of Mr. Gloag's experiments, because they were made on dead feet, and it does not appear to have struck any one that the feet (hoofs) were as much alive when experimented on as they ever were.

It may be unpleasant to think so, but the expansion theory is contracted for ever. Is it nothing that even the small amount of expansion contended for has been so difficult to demonstrate? Can any one prove, beyond a doubt, that in the lateral expansion experiments, the whole hoof did not move on the shoe (it was only fastened on one side), and make the marks on the outside quarter, without the hoof expanding at all, these marks which M. Bouley considers so very conclusive; and, let it be borne in mind the "harrow" is in the outside quarter, that the horse may have led with the experimental leg, may have turned his toe in, may have trod on an uneven surface, so as to throw his weight down on or against the pins,—say if it is *impossible* for the whole foot to have moved in the shoe to the extent of 1-40th of an inch? Why do not the hind feet expand as well as the fore? and why has no one ever thought of proving expansion from them? When a horse leaps a hedge with twelve stone on his back, do they not suffer enough of pressure from above, and concussion, too, when he gets to the other side? They clearly require some amount of expansion; and, given the 1-40th of an inch for the fore feet, how much for the hind? Why must the hoofs destroy all the concussion the leg undergoes? Why won't the pastern do as well? If the number 1 represent the concussion destroyed in the foot, what number will represent that destroyed in the rest of the limb? Will M. Bouley tell me, or anybody else, how it is that the legs of a mule, without expansion, suffer less from concussion than horses do with it? Why does he say ('*Veterinarian*,' p. 150, 4th line from bottom) "the heels of the hoof approach each other on coming to the ground, and separate again on leaving it," if he wishes to prove expansion? To sum up all, why does he not, in plain terms, admit that the expansion of the

horse's foot has been a troublesome illusion, and that he and every one else is much indebted for dispelling it.

Tetanus from Castration.

In reply to your request I send you a fatal case I have just had of the above disease, which is very heartily at your service. The subject was a black yearling calf, castrated on the 21st June with clams, (by the desire of the owner.) I removed them next day, and left with the understanding if I heard no more of him that he was doing well. This morning (5th July) I was sent for, and found him tetanic. The owner says, he went rather stiff yesterday: the cords had come clean out of the scrotum, and were adherent to the edges of the wounds, which were small, suppurating, and apparently healing rapidly; he can open the jaws slightly. Gave Aloes in solution 3x. To be kept perfectly still and quiet, and have gruel to drink, mash to eat.

10 P.M.—To-day, like the two or three preceding days, there has been a great deal of lightning and thunder; is easier to night, and has eaten a little mash; one dejection, hard; repeat the draught with Calomel ʒij, as there is great difficulty in giving it all; none can be given by the mouth: he is what Mr. Hurford would call a very bad patient.

6th.—Worse; bowels very slightly moved; fæces softening,

7 P.M.—Give Aloes ʒvj, Infus. Tabac. ʒij; same as morning previous; injections of ditto; blistered the dorsal and lumbar region (which increased the spasms so much, that in a little time he fell down); applied hot bran to the back, and ordered a sheepskin.

7th. 6 P.M.—Spasm has been nearly persistent since I saw him; breathing very quick. The sheepskin has produced and maintained great heat; been laid all the time; pulse softer; nothing from the bowels; fever hard. Gave chloroform with momentary benefit, and repeated with a larger quantity; but the spasm returns directly the effects pass off.

8th. 9 A.M.—Died.

9th. *Post-mortem*.—Nothing very observable but a little congestion of the lungs and liver. The meningeal coverings of the spinal cord have a faint rosy blush after washing; wounds healthy. The head had been taken away.

To what, Mr. Editor, are you inclined to attribute the supervention of the disease in this case?

Two months ago I had another case in a herd of calves I castrated, which had no intermission of the spasms, and

died in two days. I used a sheepskin here too. Another fatal case I attended two or three years ago, which resulted from docking. I docked again, and gave a great deal of African Aloes, &c.

I attended a filly in Midsummer, which had tetanic symptoms for a long time. Like the calf, it had got wet, the only perceptible cause. Here I used counter-irritation, and with partial recovery. The animal could walk, trot, or gallop, perfectly well; but on stopping, or passing the fæces, the fore and hind legs were extended, the head thrown up, the brow protruded, and the fore legs moved uneasily. In 1849 and 1850 I gave it repeated doses of Iodide of Potassium, without benefit. It was then sold out of my way. A successful termination to this disease I had in the Spring of 1849. It followed on an attack of bronchitis, with profuse discharge from the nostrils. I used counter-irritation. Blisters, setons, sheepskin (as in the previous case), and after recovery I opened the frontal sinus. I believe this case occurred from irritation of the brain, and probably oppression took place. I gave a great deal of Iodine, and shall try both it and chloroform again when I have a fit opportunity.

Very truly yours,

WILLIAM GAVINE.

P.S.—Of all the different methods of castration, which do you prefer? and do you consider (as in the case of clamming,) a wound with bruise more serious than one without?

CASES IN HORSES AND DOGS.

By ROBERT GIBTON, A.B. T.C.D. M.R.C.V.S.

To the Editor of "The Veterinarian."

SIR,—Though the two following cases of which I particularly write (subjoining a few others as I am writing,) present nothing in their causes, symptoms, &c. but what have been seen, written, and heard of before, yet impressed with a belief that the favorable result of one case was referable to the action of one agent (mustard), and the unsuccessful termination of the other, owing to the injudicious use of another agent (turpentine), I am induced to solicit for them a place in your valuable periodical, under the conviction that every additional successful or unsuccessful

trial of any agent ought to strengthen our attachment to, or warn us against its use (more correctly, abuse); and, as these cases are gleanings from the practice book of a very young practitioner, they may possibly be, to a portion of your readers, welcome.

CASE I.—*Enteritis*.

About twelve months since I was requested, at 10 o'clock, P.M., by Dr. Barlow, Eccles Street, of this city, to attend a bay carriage horse (purchased a few days before for sixty guineas), stated to be "dying." On my arrival, I found the animal being led about by the groom, surrounded by from fifteen to twenty persons, comprising grooms, farriers, blacksmiths, *et hoc omne genus*, giving as many opinions as there were persons (no unfrequent annoyance in the practice of our profession). Proceeding to examine the horse, I experienced some difficulty in having received no clue whatsoever as to the history of the cause, it being merely stated that, three hours previously, he was perfectly well. The only symptom I could immediately seize upon, was a continual tottering and disinclination to be stopped, particularly noticeable at the time we were endeavouring to keep him still in order to bleed him, the pulse being 60, and full. Notwithstanding our numbers, I at first failed to effect this; however, having had the place well covered with straw, according to my anticipations, he fell, when I bled him largely; and not until then was I given to understand by the groom, that the animal was *slightly* purged a few hours before, (notifications of a class, when to their advantage, which it behoves us to receive with caution.) I gave Pulv. Opii in a drench, threw up an enema; and, with a good deal of difficulty, I had him brought down to my own stables, the Doctor giving up all hopes of his recovery. The truth at length began to ooze out: the groom, in his wisdom, a few days previously, had administered a purgative ball; and it failing to act, even before action was due, a second was given. This was sufficient. The cause was evident—but not more palpable than was the result, for a more violent case of *Enteritis* I, in my brief experience, never witnessed. For several hours I repeated the Opium drenches and enemata, but with no apparent benefit. About 3 o'clock, A.M., on the following day, I applied a strong mustard blister over the abdomen, and in less than half an hour the marked benefit exceeded my warmest anticipations. By 8 o'clock, my patient was feeding; so that in a few days I was able to discharge him, having adopted the usual restorative means. Is the recovery of this

case to be ascribed to the quick action of the mustard solely, or to the action of all the remedies together?

I am happy to say that the Doctor has since trusted less in the experience of grooms.

. Mainly, in our opinion, to the mustard; an agent we continually employ.—ED. VET.

CASE II.—*Colic.*

A few months since, at 8 o'clock, P.M., I was requested by Dr. Eustace to accompany him to his residence, Hampstead Glasnevin, to attend a bay saddle-horse, 6 years old, which, twelve hours previously had been attacked with apparently colicky pains. The village smith was summoned, who prescribed a magnum dose of Ol. Terebinth., which was repeated; but the symptoms increasing rather than abating, I was sent for. But, alas! ere my arrival the medicine had done its work, death having relieved the animal from further maltreatment. I at once proceeded to make a *post-mortem* examination, and never saw more widely diffused inflammation. The whole of the intestines were highly inflamed, and there was, besides, sufficient evidence of the kidneys not having escaped intact, as also some of the other viscera. No cause being assigned, it is impossible to say whether the inflammation existed previously to, or was the result of, the administration of the turpentine. Even if the former were the case, it is certain the latter exacerbated the disease. I conclude this case by stating my belief, that this medical gentleman now reposes less faith in the village smith.

CASE III.—*Obstructed Bowels in a Dog.*

A few weeks since, an uncle of my own, (William Fry, Esq., 22, Pembroke Place,) requested me to examine a valuable Newfoundland dog, his property, which, for a day or so, had been exceedingly dull, and off his feed. On proceeding to examine him, I found him by no means inviting; but at length, after some difficulty, coming to the conclusion that constipation existed from some cause or other, I ordered the usual dose of Ol. Ricini et Syr. Rhamni; enema; and warm fomentations to abdomen. None of my orders were complied with. The servant not wishing to risk his personal safety, and it being late at night, further assistance was out of the question. The animal was left to his fate until morning, when I brought one of my own men. But the enormous strength of the dog having completely baffled all his efforts at forcing any medicine down, I disguised Chlor.

Hyd., gr. iij, in some food, which he took. Calling in the evening, I found the animal frequently endeavouring to void something, which, on examining, turned out to be an enormous quantity of curled hair. The cause of illness was explained. Mr. Fry keeps a large factory for curled hair, &c., and the dog, having been there a few days previously, had picked some up. The animal became completely restored.

CASE IV.—*Partial Paralysis in a Dog.*

I am inclined to attribute much to mustard in the following:—Mr. Mayston, Upper Sackville Street, brought me a valuable water dog affected with that partial paralysis and inability to walk which we frequently see following cases of distemper. I passed a seton through the back of the neck, and frequently applied mustard along the spine, and occasionally gave small doses of Calomel. The result was, that in a few weeks he was perfectly restored to the use of his limbs.

CASE V.—*Fissure of the Hepatic Duct in a Dog.*

Charles Armstrong, Esq., Mountjoy Square, brought me to see a greyhound dog, which he placed much value upon, evidently unwell, being dull and heavy. I perceived that the visible mucous membranes presented that yellow tint which so unmistakeably denotes hepatic derangement, and ordered half grain doses of Calomel every two hours; a blister to the left side. Next day no improvement. The animal being a great favorite with its owner, Mr. Armstrong asked me if I had any objection to have another opinion, viewing the case all through as hopeless. I gladly accepted the offer; and called in that eminent and scientific veterinary surgeon, Hugh Ferguson, Esq., than whose a better opinion does not, I believe, exist. His views accorded with my own. The case terminated fatally. I made a *post-mortem* examination, and found, as Mr. Ferguson thought probable, the hepatic duct considerably thickened where it enters the duodenum, likely the result of some inflammation set up from some unknown cause or other.

CASE VI.

A few weeks since I was called to one of those cases which it is sometimes difficult to discover a cause for; it is as follows:—E. Black, Esq., Eccles St., sent for me to look at a valuable hunter which was left the previous night “all right,”

though on the groom entering the stable in the morning he was discovered lying across the stall, in which position I found him on my arrival, 7 o'clock, A.M. Finding him insensible to the prick of a pin on one side, I came to the conclusion that I had to deal with a case of Hemiplegia.

Treatment.—Stimulate the spine; blister the head; give Calomel in small doses; throw enemata up. 2 o'clock, P.M., no change. The owner anxious to leave nothing undone, I called in Mr. Ferguson, who at once looked on the case as unfavorably as I did myself. He had him bled, and recommended much the same treatment as myself. Two days subsequently the case terminated fatally. I had no opportunity to make a post-mortem examination.

I have the honour to remain, Sir,

Your obedient servant.

20, Russell Place, Dublin.

EFFECTS OF CANNABIS INDICA AND MYLABRIS.

By T. HURFORD, M.R.C.V.S., 15th King's Hussars.

THE CANNABIS INDICA is the *Hemp*. The leaf is much used throughout the East as an excitant and intoxicating drug. It is called *Bang*, *Gunga*, &c. &c.; the preparation I have used is the extract, a dark solid substance. Its effects are most marked. The opinions respecting it have been various, as the following extracts will show:—

“Dr. Laurie pronounced it uncertain, and *not* to be trusted as a NARCOTIC.”

“Mr. Ley found it useful in *relieving spasm*, PRODUCING SLEEP and abatement of pain.”

“Mr. Donovan found its power great in temporarily destroying sensation, and subduing the *most intense neuralgic pain*.”

“Professor Miller, of Edinburgh, considers its virtue to consist in a power of *controlling inordinate muscular spasm*.”

The last three, I think, will encourage its being tried and persevered in as a remedy for Tetanus.

There is a blistering fly used in India, which I think might be used in this country, the “*Mylabris Cichorei*.” The name *καυδαρις* was applied by the Greeks to a species of Coleopterous insect distinguished by yellow transverse bands. This is the *Mylabris*, and a most powerful blister it makes.

While I used the Cantharides I made my blister according to "College" formula, viz., of lard, 8 ounces; Cantharides, 1 ounce: and at first I made the Mylabris blister of the same strength. The result was most unpleasant. It took the skin off in a mass. After a series of trials I find it perfectly manageable, made with lard, 8 ounces; mylabris $1\frac{1}{2}$ drachm. Add to this saving, that it does not appear to affect the kidneys, and I think you will allow it to be a useful blister. I have used the *Acetum Mylabris* frequently on my own person, so I can speak with confidence on this point. And where the effect of cantharides proved most unpleasant, the mylabris, except as a blister, did not produce any.

Believe me, my dear Sir,

Yours, &c.

Blackheath; July 6, 1852.

. Mr. Hurford, who has resided with his regiment for twelve years at Bangalore, Madras, says, in a short letter accompanying this acceptable little paper—"I have been intending to call on you; but, by Jove! the heat would kill a Madras cooly. Why, in our *hottest* months at Bangalore (India) we experience scarcely anything equal to what the last week has been. My time is getting short; I expect to return to India in August." With all our heart we say "Bon voyage, to you and yours." When far, far away, don't quite forget us!—ED. VET.

CASES BY MR. TOMBS, M.R.C.V.S., Stratford-on-Avon.

To the Editor of "The Veterinarian."

SIR,—The enclosed not being very common cases, I send them for publication in "THE VETERINARIAN."

I am, Sir,

Yours respectfully.

July 6th, 1852.

CASE I.—*Gastritis and Constipation of the Bowels, caused by Eating an enormous quantity of Vetches and Split Beans.*

June 18th, 1852, at 8, P.M., I was requested to see a seven years' old dray horse, belonging to the mayor of this town. I found him lying down at full length, with slight tension of

the abdomen; pulse 60, and hard. I was informed that he was taken unwell in the morning, and had refused his food; and after that was taken a journey to Leamington and back, a distance of twenty miles. On his way home he dunged twice. I administered an anodyne draught, and bled copiously at 10, P.M. Gave Barb. Aloës, ʒvj in solution, and an enema.

19th. At 4, A.M., I ordered him Barb. Aloës, ʒijj. At 6, A.M., symptoms—pulse 70; great distension of the belly; tunica conjunctiva reddened; walks round the box; looks back; paws the litter; lies down with his head stretched out; drinks warm water, and eats a little bran mash. R Aloës Barb., ʒiv; Hyd. Submur., ʒj; and Opii, ʒj, in solution; back-raked, and an enema; bled profusely; mustard embrocation applied to the abdomen. At 10, A.M., *in statu quo*. No evacuation. Gave Ol. Ricini. At P.M. ordered an opiate. At 3, P.M., no improvement. Administered Ol. Ricini, and a tobacco enema, which caused no action on the bowels. Legs to be well rubbed and bandaged. Drinks warm water. At 8, P.M., much worse; pulse 90, up and down; often looks back and paws the litter; belly frightfully swollen; countenance dejected. Bled largely. Gave Aloës, ʒiv; Hyd. Sub. and Pulv. Opii, āā ʒj; ordered frequent enemas, and mustard application during the night.

20th. 4, A.M. R Aloës Barb., ʒij; Opii and Calomel, āā ʒj. 6, A.M., pulse 80; in less pain. Extremities and ears warm. Easier, and apparently somewhat relieved, although he has had no motion since he has been under treatment. Gave Aloës Barb., ʒijj. At 10, A.M., stooled freely, and evacuated a large quantity of partially digested vetches. At 4, P.M., pains alleviated; pulse 85; has had several not particularly hard fæcal evacuations since morning; eats sparingly, and drinks largely. My hopes even now are still faint as to his recovery. Gave Aloës, ʒijj, and Pulv. Zingiberis, ʒij, at 8, P.M. Not so often down. Abdomen too much distended. Gave gruel.

21st. 6, A.M. Pulse 80. Ears and extremities warm; more lively; is fairly purged. In consequence of flatus in bowels I administered a dose of Spts. Nit. Æther. At 6, P.M., a great change for the worse; dejected countenance; abdomen enormously distended; pulse 100; the last fæcal evacuation is hard. Abstracted a small quantity of blood, which was very black, the coagulable lymph much darker in colour than at the previous bloodletting, and it crumbled to pieces when handled. I now gave up my patient as lost. Administered Ol. Ricini, ʒvj, and Pulv. Opii, ʒj.

22*d.* 6, A.M.—Worse; pulse 120, and feeble; eyes ready to start out of their orbits; great swelling of belly; lies down all along; looks back; when up, paws, and is in excruciating pain; refuses food, but drinks large quantities of tepid water. He has not rolled from the beginning.

23*d.* Pulse, 120; evidently sinking; in great pain; up and down; evacuations, sometimes of a natural consistence, at others liquid; opiates. He continued without much variation in these symptoms until P.M. the 24th, when death ended his sufferings.

Post-mortem, at 6, P.M.—Intestines from end to end contained pultaceous matter; no obstruction, adhesion or stricture in any part of them. In the cæcum were found eight small stones of a calcareous nature, weighing from ʒss to ʒj each; the mucous coat of this gut was highly inflamed. Stomach surprisingly inflated with gas, exactly like a blown bladder, occupying a large portion of the epigastric region; it also contained half a gallon of split beans, but slightly masticated, and not all digested. Its villous coat was intensely inflamed in patches.

Observations.—Undoubtedly, the stomach had lost its contractile and digestive powers from the onset, otherwise it would not have taken ʒiij of Barb. Aloes, ʒiij of Hyd. Submur., and Oij of Ol. Ricini to operate on the bowels. The beans never moved, nor were acted upon from the time they were swallowed, which was owing to two causes, viz., the great quantity taken at the time, a huge mass of vetches being jammed into the bowels. The owner has since told me, he has ascertained that the man in charge of his horses, on the afternoon before this horse's illness, gave them as many vetches as they would eat, and after that as many beans as they could possibly cram down. So much for the management of waggon horses, of which this is one of a numerous class. Waggoners are so sceptical and profoundly ignorant that they think unless a horse's bowels be filled out and on a level with their hip bones, they have a mean appearance, and are not capable of a hard day's work. No persuasion can root out the strong prejudices of waggoners in regard to the feeding of cart horses.

CASE II.—*Concussion of the Brain.*

Supposed to have been occasioned by a kick from another horse while lying out in a field. I saw him on the 21st ult. He was lying down at full length, struggling, and unable to rise, and could not stand when hoisted up, his

head at the time hanging on one side. There were two scars on the forehead, and a small wound on the anterior and upper part of the occipital bone. Pulse 34; appetite good. I acquainted the proprietor that the case was hopeless, and that there was effusion or extravasation of blood on the brain. The horse had been treated by a farrier for a "cold," was bled, &c. It appears now that he was down two days before I was called in, and had received the injury eleven days before. On the ground, he rolled and staggered, and turned round and round like a giddy sheep, and ran against walls or posts, or anything in his way. The owner asked me to take the case in hand. I said I would endeavour to relieve him, but thought there was little probability of doing so. I administered a cathartic, and inserted setons in the forehead and behind the ears, and blistered the poll.

25th. No alteration. Prescribed the knacker's knife.

Post-mortem Appearances.—No injury of the bones of the cranial cavity. Dura and pia mater injected with black blood. In the fissure of the cerebrum extravasation of blood. Effusion of tough lymph, 3ss in weight, between the cerebrum and cerebellum. Effusion of serum between the cerebellum and medulla oblongata.

PHYSIOLOGY OF THE FOOT.

To the Editor of "The Veterinarian."

SIR,—I forwarded, through Mr. Reeve, a paper and drawings, but not in a form, I suspect, suitable for your Journal; nevertheless, these may elicit some observations from him or yourself on the physiology of the foot; at the same time I cannot help writing, that any remarks of mine on shoeing are not introduced with the view to effect change in the ordinary practice of shoeing. What Messrs. Coleman and Goodwin could not in their position do, would be hopeless in an humble individual like myself; I therefore wish to distinctly disavow it.

I am pleased with the manly candour of Mr. Feild's answer to Mr. Gourdon, and the proper phase of your editorial remarks. Every one knows, who has seen the artist's seven ages of an English horse, that he is the victim of so many different parties' balance sheets, and the farriers among the

rest ; physiology being never called into play until the horse cannot go to suit some one's balance sheet. Physiologists will not sneer at the farrier's shop after that "the balance sheet has cured them," "so many *pounds profit*, and all from that nasty cold iron." I ask of John Stanton a balance sheet! Shakespeare made Falstaff say, "honour would not mend a leg," neither will it a horse's foot, "so we will have none of it." Physiology is "worth nothing to us" in the ordinary practice of shoeing.

I am, Sir,

Yours faithfully,

J. T. HODGSON.

SIR,—I beg to forward to you, agreeably to the request of Mr. Hodgson, the accompanying papers, which he has submitted to my perusal. I must plead a pressure of business for not having attended to them earlier.

Mr. Hodgson does me the honour of requesting my opinion of his writings, and wishes me to express the same candidly to yourself.

Now, from what I can gather, it is Mr. Hodgson's opinion that the horse's foot expands neither at the heel nor quarters, that there is no descent of the sole ; in fact, that there is no motion going on in the hoof except a gradual increase or spread of the base which accompanies the slow growth of the horn. This he seems to consider is favoured by the pressure from above ; whilst, at the same time, the heels are made to bend inwards, and thus take the curve they are always found to have.

This doctrine (which is flatly opposed to that of expansion) he endeavours to support by reference to Coleman, and, consequently, gives quotations which are intended to show that Coleman himself was not a believer in the expansion of the horse's foot !

In requesting my opinion of the accompanying papers, I suppose it is Mr. Hodgson's wish to know, if I think he has succeeded in making a convert (*post-mortem*) of the immortal professor ?

Now, with regard to the perusal of an author's writings, I think we can best glean their meaning by considering the impression they leave upon our minds, and, certainly, that which I received by studying the works of Coleman was, without a doubt, that he was a believer in, and promulgator of, the doctrine of *expansion*,—of an expansion of the foot taking place at every step of the animal. And that this expansion was produced both by the pressure of the internal foot

upon the horny sole, thereby expanding the lower border of the crust, and by the compression of the elastic substance at the posterior part of the foot, caused by pressure from above and counter pressure from below upon the frog. The latter cause he laid most stress upon, because it expanded the cartilages and heels.

This is my opinion of Coleman's theory, and I am compelled to say that Mr. Hodgson's papers have not altered it.

In conclusion, allow me to observe that I think it altogether futile to refer to authors for a settlement of the question at issue : the only thing that can pass current, in the present day, being direct, practical, and demonstrative proof.

I beg to subscribe myself,

Yours faithfully,

W. G. REEVE.

1, Elizabeth St., Eaton Sq.,
May 24, 1852.

DISEASES OF CATTLE IN INDIA. By Mr. HODGSON.

Goolee. This is violent inflammatory Fever, in the rains, from indulging too much in green grass, after the hot weather. It is easily prevented by limiting the time of grazing, and not allowing the cattle to get poor in the previous hot weather. The post-mortem examination of Cattle showed extensive effusion of lymph and serum in the thorax and into the tissues all over the body. Two friends of mine had each 300 or 400 head of cattle. I forget how many, but great numbers died without treatment ; and had it been otherwise, unless I had seen them when it first broke out, would it have availed, so violent is the fever in the fat animal, under the heat of the climate.

Surruk (Inflammation of the Intestines). This happens in the rains, or beginning of the cold weather.

Gurmees. This is the native term for fever in man and animals.

In an extensive country like India, they have different dialects and terms for diseases. The veterinary surgeon must learn the Hindustanee language, without which it is impossible to do his duty with a native cavalry regiment, or give directions to the native Salootries (Farriers), or Natbunds (shoeing smiths). Cattle are bred for the Artillery, and it might happen that the veterinary surgeon be consulted, should any disease appear among the animals, to any extent, as I have seen the case with Golec.

Diseases of Horses, peculiar to India.

Bursantee (or Ulcer of the rainy season). This I shall describe in a future paper.

Kinnurée (or Weakness in the Loins), ditto.

Inflammation of Intestines, ditto.

Cutaneous Affection, ditto.

Tetanus, ditto.

Diseases of Camels. Native Treatment.

Khoorka (Catarrh). Cordial Mussaulahs.

Pakdar. This is considered infectious; the lungs are inflamed; no cure known to natives; they separate the diseased from the healthy, and they recover occasionally.

Cheechuk (Camel Pox). Medicine not given; soon recover.

Heca belau (Acute Inflammation of the Liver). Purge and fire sometimes.

Hooppy (Inflammation of the Throat). Fire and foment.

Ball Rheumatism (Gurru). Cordials and fire.

Kumree or *Hurva* (Paralytic Affection, or weakness of the loins). No cure.

Kupaulee (Abscess on neck). Fire at first—when the abscess is fit, they open it.

Kharisht (Mange). Oil and sulphur.

Buoputta Kohim (Tumours in various parts). Fire at first appearance;—*vide* Kupaulee.

Gupthul Hudda (Costiveness). Purge.

Kookra (Inflamed Tongue). Emollient applications.

Bisova (Dropsical Affection). Fire, stimulants, what is called Gurum Masaulahs.

Baed (Levelled Legs). Fire.

Feenehu Janvoa (Swelled Joints). Fire.

Seemuk (Decay of the Muscles of the Limbs). Fire.

Fuller (Diseased Feet). Put them in wet clay.

Rus (Indigestion). Only attacks foals within a month after birth.

This was obtained from the native superintendent of the Camel stud at Hissar, where the Camels only came for occasional inspection. *Pakdar* was the only disease I was asked to give my advice about, and then only in the cold season, it having broke out in the rains before I arrived. The actual cautery is used in almost all diseases of Camels, to be seen from the marks on different parts of their bodies. Camels are so necessary to the army, that veterinary surgeons should take an interest in everything concerning them.

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

AN INQUIRY INTO THE REASONS WHY THE HORSE RARELY VOMITS.
By JOSEPH SAMPSON GAMGEE, Esq., Student in Medicine in
University College, London.

[Continued from p. 397.]

III. WHAT IS THE ACTION OF EMETICS ON THE HORSE? It is so well known among veterinary pathologists, that the horse is not acted on by emetics as is the dog, that, while they frequently prescribe them in the disease of the latter, they never do so in those of the former. The most celebrated writers on veterinary therapeutics, generally exclude emetics from the list of medicines available for the relief of the diseases of the horse, and refuse to the emetic, *par excellence*,—the potassio-tartrate of antimony,—any emetic virtue in the equine species, when administered internally. Were this the sum total of our information on the point at issue, our inquiry would be at an end; but since it has been alleged by several French experimentalists, that the horse makes efforts to vomit when potassio-tartrate of antimony is injected into its veins, it is imperative that we should test the empirical grounds of such allegation.

We find it stated by M. Dupuy that he has succeeded in producing attempts to vomit in the horse, by injecting tartar emetic into the crural or jugular veins, in doses varying from six grains to two drachms. The director and professor of the Veterinary School at Lyons, in their account of the action of tartarised antimony, thus express themselves: “Injected into the veins of the large herbivora, in doses of from nine to eighteen grains, tartar emetic occasions vomiting, or the phenomena which accompany that act of evacuation.” They give no evidence to prove this statement.

Finally, we have to quote an experiment which was performed by MM. Leblanc and Mignon: “Thirty-six grains of tartar emetic injected into one of the jugular veins of a horse,—a longitudinal opening about seven inches long, made on the side of the linea alba,—exploration of the stomach with the finger,—contractions of the viscus insensible,—contraction of the abdominal muscles alternating with that of the diaphragm, the latter taking place during

inspiration ; at this moment the right crus of the diaphragm is forcibly extended, but the œsophagus is only moderately compressed between its fleshy lips,—the intestines forcibly escape through the wound in the abdomen,—eight minutes after this injection of tartar emetic, appearance of some nausea, or violent and simultaneous contraction of lower abdominal muscles and diaphragm. The whole intestine is removed in order to see the stomach well; the viscus follows, like a pendulum, the alternate movements of contraction and relaxation of the diaphragm; the stomach, which is tolerably distended, is the seat of slow, continuous contractions, which always commence at the same point, the pylorus. The contraction and relaxation of the lower abdominal muscles and diaphragm take place gradually and slowly. This partition yields little by little, but uninterruptedly, to the abdominal muscles; these act similarly with regard to the diaphragm, so that if we form a material idea of these respiratory powers, we can compare them to two machines always equidistant, and directed in the same course, each describing the half of a double cone, whose limited base of reciprocal excursion would be in the middle. When one of them is at the summit, the other is at the base, and *vice versâ*; consequently, the action of the diaphragm increases in proportion as that of the abdominal muscles diminishes. These forces are therefore essentially respiratory. The one—the diaphragm—is active during inspiration; the other—the force generated by the abdominal muscles—is expiratory. Renewed, sudden, violent, and simultaneous contractions of the diaphragm and abdominal muscles occur; the latter even appear to augment their action in proportion as the diaphragm relaxes; it is the nausea, or the manifestation of the effort. No vomiting has occurred; finally, the animal expires.”

From this account it appears that, on seeing violent efforts of the abdominal muscles and diaphragm of a horse, into whose veins tartar emetic had been injected, and from whose abdomen all the intestines had been removed through a large opening, MM. Leblanc and Mignon inferred that the emetic was producing its specific action by exciting efforts to evacuate the stomach through the œsophagus. No vomiting occurred, and therefore the experiment, *primâ facie*, establishes,—firstly, that the horse makes efforts to vomit when potassio-tartrate of antimony is injected into the veins; secondly, that as those efforts are not followed by vomiting, there must be some mechanical impediment to the escape of matters through the cardia. Both these conclusions are erroneous; and they are so for the following reasons:—The description given of the

movements of the abdominal muscles and diaphragm, is not such as to prove beyond doubt that they were efforts to vomit. Confessing adhesion to the doctrine that the diaphragm takes an active part in vomiting, we deny that it does so by virtue of an *inspiratory movement*, and that, as it *relaxes*, the abdominal muscles make a sudden effort, as in forcible expiration. The act of vomiting is one *sui generis*, and not a respiratory act. Let any one try to simulate the effort to vomit, or study the real effort in his own person, and he will feel that the glottis having been closed after a deep inspiration, the diaphragm abdominal muscles act simultaneously, so as to press the stomach between them. To this it may be objected that, for the diaphragm to descend while the glottis is closed, the air in the chest should be rarefied, which is an unlikely occurrence. The fallacy of this objection is demonstrable by experiment, as Dr. Sharpey has long since shown in his lectures on anatomy and physiology in University College. A bandage being closely passed round the lower part of the chest, it is easy to press down the diaphragm at will; on doing so, the bandage becomes loose, evidently owing to drawing in of the cartilages of the lower ribs by the descending diaphragm. Thus the augmentation of the thoracic cavity in its long axis, is compensated by its decrease in the transverse; and it becomes obvious that the diaphragm may descend when the glottis is closed, without enlarging the chest, and therefore without rarefying the contained air. That, however, the witnessed efforts were in reality the pangs of death, is rendered more than probable by the terms in which the narrative of the experiment ends,—“*enfin, l'animal expire.*”

But conceding, for the sake of argument, that the movements observed were efforts to vomit, we maintain that it is not just to conclude that, because they were not followed by vomiting, there must have been some mechanical obstacle to the escape of matter through the cardia. As the experiment was performed, it was impossible for the stomach to be pressed upon by either the abdominal muscles or diaphragm, and, therefore, there was no chance of its contents being evacuated through the œsophagus. Protected, as the horse's stomach is, by the far-back projecting ribs, it can only receive pressure from the abdominal muscles, indirectly, through the intestines. When these are removed, the viscus cannot be pressed upon by those muscles, and the pressure of the diaphragm on it is very slight, because the stomach undulates like a pendulum, backward and forwards, in the empty cavity, without meeting with the least resistance.

The evidence which we have adduced, and which is all that

we have been able to collect, in favour of the doctrine that efforts to vomit can be excited in the horse by injecting tartar emetic into its veins, may be thus briefly summed up :

1. M. Lecoq and his colleagues (the veterinary professors of Lyons) have expressed an opinion in the affirmative, without publishing the grounds of their belief.

2. The experiment of MM. Leblanc and Mignon, which professes to prove the doctrine, appears to have been conducted with so little regard to the exclusion of sources of error, that it would be unwarrantable to draw any positive inferences from it.

3. As we are not acquainted with the details of the experiments which formed the basis of M. Dupuy's statement in support of the above doctrine, they need confirmation ; a need which becomes imperative, on reflection that the horse is not susceptible of emesis by the introduction of any medicinal substance into the stomach, and that as our knowledge of the action of emetics in the dog proves, that when introduced into the veins or into the stomach their effects differ in degree and not in kind, there is strong ground for the belief that the horse is unsusceptible of the specific action of emetics, even when directly injected into its circulating system.

In order to settle the question, I determined to appeal to experiment, and procured for the purpose a horse and a mule, both of sound constitution. I have injected into their jugular veins solutions of tartar emetic, in 5, 30, and 50 grain doses, but have never seen efforts to vomit ; to avoid misunderstanding I may say, that I have never seen any such thing as the animals thus experimented on take a deep inspiration, fix the chest, and make sudden and forcible exertion with the abdominal muscles. Inasmuch, however, as I noticed some preternatural phenomena of muscular action in two of the experiments, a detailed account of them is rendered necessary. Twenty minutes after injecting into the left jugular vein of a horse thirty grains of tartar emetic, dissolved in three ounces of water, the muscles generally became rigid ; but there was no movement caused by any of them. It was static, not dynamic contraction. After this, I noticed a good deal of twitching of the muscles of the fore and hind limbs, and of those of the lower part of the neck ; but the abdominal muscles acted evenly, though with more frequency than usual, as the respiration became a good deal accelerated. At the end of three hours the twitching had almost ceased ; and had done so completely, and the animal had resumed eating in a little less than four hours. Lest it should be feared that I misconstrued the phenomena of

muscular contraction, I may say that almost every five minutes, and sometimes oftener, I took notes of the state of the animal; and did not note such words as *spasm* or *effort*, but avoided the danger of erring in judgment by describing in periphrases all I saw. It is important to notice that in the same animal, on a subsequent day, I injected 30 grains of tartar emetic in $1\frac{1}{2}$ oz. of water, without producing any sensible effect whatever. I injected 50 grains of tartar emetic, dissolved in $1\frac{1}{2}$ oz. of tepid water, into the jugular of a mule, with the following result:—Fourteen minutes after the injection, the animal did not present any change; but, in a few minutes more, left off eating and stood still. In the ensuing thirty-seven minutes, the muscular system was several times subject to momentary rigidity, which, with the exception of slight elevation and extension of the head, was unaccompanied by any movement. This muscular rigidity simulated the tetanic state, and contrasted strongly with the state of the muscles of the same animal while voiding fæces and urine; in an hour and fourteen minutes the mule resumed eating, and presented no other symptoms. If I had been a little less cautious in the avoidance of fallacy, it is very likely I should, in observing these muscular phenomena in two of the experiments, have succeeded in seeing attempts to vomit; but they assuredly were not such, for they did not in any degree resemble the efforts made by the same animals to evacuate the bladder and rectum, or the efforts made by the dog and man to empty the stomach through the œsophagus.

Considering the vague manner in which M. Dupuy alludes to his experiments, and, on the other hand, confident of the fairness with which my own have been conducted and recounted, I feel myself justified in opposing my conclusions to his, and in stating that all the attempts hitherto made to excite efforts to vomit in the horse by emetics have failed. This unsusceptibility to emetic action, and the very rare manifestation of the phenomena of vomiting by the horse, must obviously be regarded as cause and effect, and, consequently, as the answer to the question, Why does the horse rarely vomit?

February 7th, 1852.

Foreign Department.

ORGANIC LESION OF THE PYLORUS IN THE HORSE, OCCASIONING ABUNDANT AND FREQUENT VOMIT- INGS AND, IN THE END, DEATH.

By A. SANSON, V.S. at Aulay.

THE annals of French Veterinary Medicine contain few anatomico-pathological facts of the kind we are about to make mention, if indeed they contain any; at least, we have met with none in the journals we have had access to, whose collections constitute, at the present day, almost the only sources of information open to us. M. Mignon, who must have made ample inquiry after materials for the *Historical Sketch of Vomition* he read to the Central Medical Veterinary Society, has adduced no example. Is this, on account of such instances being exceedingly rare in the horse, or because those who have seen them have failed to record them? Be this as it may, whether such cases be frequent or rare, the present one has appeared to us of sufficient interest to take a place in our Veterinary archives, not only for reason of its anatomico-pathological import, but also from its tendency, we would hope, at least, to definitively draw attention to the mechanism of vomition in the horse, since, as M. Pigné has observed, and M. H. Bouley but a little while ago repeated,—“The most brilliant conquests of physiology date their progress from pathological anatomy, and at the present day these two sciences have arrived at that point at which they afford each other mutual assistance; while all discoveries relating to physiology must, before they can take up their rank in science, receive the sanction of pathological anatomy.”

A mare, the property of a carrier, while hardly worked and hardly fed, one day, while at heavy work, all at once stood still, stretched out her neck, and threw up through her nostrils matters which her owner believed to be excrementitious. A few days after he made us acquainted with what had occurred, and consulted about it. A phenomenon of such rarity, and one that had already occurred several times, as he informed us, failed not to excite vividly our curiosity; therefore we promised attentive observance. The mare, at this time, was at work among the ruins of a house exactly

opposite to our own habitation ; so that we were, luckily, most fortunately situated.

We found the mare lean and hide-bound, with a long rough coat, inclined to continual somnolency, with every indication of weakness induced by fatigue, privation, and disease. A seton, put in the chest by some farrier, for what purpose was very doubtful, had produced considerable swelling; and this interfered with the movements of the fore limbs. The mucous surfaces were pale and infiltrated; the pulse slow, almost to imperceptibility. The chest, auscultated and percussed, appeared to us in a state of perfect integrity; save that the pulsations of the heart seemed to us occasionally prolonged. The œsophagus, throughout its entire cervical course, gave evidence of no enlargement or puffiness indicative of pouch or dilatation. (*Jabot.*)

All these signs of general exhaustion, joined to the frequent vomitings of which we now had proof *de visu*, led us to suspect cancerous disease of the pylorus; though this was but an induction to which we could attach but feeble weight, seeing we were wanting in facts to form our diagnosis upon. Being most anxious nevertheless to ascertain how far we were correct, we begged of the owner of the mare to give us due notice of her death, which we had predicted would not be far distant.

We had frequent opportunity, as the mare passed daily to her work, of witnessing the facility with which she relieved herself of the alimentary matters that had accumulated in her stomach. Her appetite was uncertain; though it was always when she had eaten over-night that, in the morning afterwards, vomiting came on: and it took place in this way. As soon as morning arrived, after having travelled some kilometres, she stopped eating, stretched out her head and neck somewhat, the abdominal muscles at the same time moderately (*legèrement*) contracting, and with no efforts beyond this, threw up, through the nose, from three to four pints of liquid matters, mixed with a large quantity of alimentary matter, which had already been submitted to the action of the gastric juice, as indeed was apparent enough from the acetous odour emitted by it. Afterwards she would continue her work to emit again several times in the course of the day. At evening, when she entered her stable, her appetite proved all but gone, she taking scarcely anything during the following night; though this did not incapacitate her from returning to her work the next day. This inappetence continued for a day, or, at most, for two days, during which time she ceased vomiting. Then, about the third

day, appetite would return, and she would eat abundantly in the course of the night, which in the morning would be followed by fresh vomiting.

This state of things, for which all remedy was hopeless, continued longer than we had, from the excessive weakness of the horse, reckoned on. At last, however, on the 19th January, the owner came to announce to us that, for the last two days, his mare had refused her food, and, on which account, he had left her in the stable, where she had stood and vomited almost incessantly. "Indeed," added he, "I may expect to find her dead on my return." His apprehensions were realized; and the next evening we went to the stable, the manger of which was really inundated with vomited matters; indeed we do not exaggerate when we say she had ejected upwards of ten quarts (*quinze litres*). We proceeded at once to the—

AUTOPSY: fifteen hours after death. The *stomach* was found considerably larger than usual, notwithstanding it was but moderately filled by the aliment within it, and, in this condition, was remarkable for the flaccidity of its parietes. The sort of circular contraction, which, in the natural state, marks internally the separation of the two sacs of the viscus, had entirely disappeared. When section is made of the *œsophagus*, at about two diameters from its insertion, and its inside is drawn out, what strikes attention is the extraordinary relaxation of the two circular bundles of fleshy fibres which, under the name of *œsophagean cravats*, normally constrict the termination of this tube in the stomach. So manifest is this relaxation that, if only precaution be taken to close the pylorus by grasping the duodenum, the liquid contained within the stomach will, by its own weight, readily flow out at the other end. The other fasciculi of fibres which, in contrary directions, surround the stomach, have experienced a divarication (*ecartement*), and an elongation showing the extreme degree their extension can be carried to.

The interior of the stomach also commanded our attention. The *œsophagus*, instead of terminating in a projecture (*saillie*), communicates with the stomachic cavity by a gaping infundibuliform aperture; and its mucous lining is thrown around the infundibulum into a succession of loose longitudinal plaits. These plaits become continuous for the most part with others of the same kind lining the left sac of the stomach, the lining of the right being greyish and attenuated.

The above changes, which might well account for the vomiting, are not those of the greatest importance to us. At the pylorus, and within the incipient portion of the small

intestine, it is that we find organic alterations of extraordinary character. The exterior surface of the ovoid bulging portion of the duodenum presents groups of black elevations of the magnitude of peas, of which some are round, others irregularly linear. They cover a space two decimetres in height by about one in breadth, having marked intervals. Throughout this papillated part, the fleshy coat of the gut is at least triple its natural thickness, and presents a close texture and greyish colour. We are much inclined to think that this change has something *melanotic* in its nature—a supposition favoured in some degree by the colour of the animal (grey). We regret not having subjected the matter to analysis, which might have settled the question. We feel bound to add that no traces of melanosis were to be discovered in those parts in which the disease is ordinarily found.

The internal surface, extending from the aperture of the stomach along the duodenum to about two decimetres in length, is entirely coated with a thick layer of greyish curdly pus, having an infectious odour. The mucous follicles were considerably hypertrophied. And all this was more remarkable around the circular bulge here made by the pylorus.

The thoracic portion of the œsophagus exhibited also remarkable alteration. Instead of its muscular coat being triply thick and close in texture along its course posterior to the heart, it has become extenuated and flaccid, and the more so the nearer it approaches the stomach, in which, as was before observed, it terminates in the form of a reversed funnel.

If now we make an attempt, through analysis of these various marked changes, to account for this pathological phenomenon, it will be easy for us to show that the *pyogenic transformation of the pylorus* is the principal agent. And we regard it as operative in this manner:—This lesion, after more or less duration, arrives at that intensity that it either sets up opposition or difficulty to the egress of alimentary matters from the stomach to the duodenum. Such an obstacle cannot here be followed by over-repletion of stomach. Such repletion for any length of time being unendurable, muscular contraction is set up in the stomach, but which becomes, under the growing distension, weaker and weaker, as much from distension of muscular fibre as from exhaustion of nervous energy. This nervous exhaustion is succeeded by temporary paralysis, which, affecting the substance of the pyloric orifice, produces, according to M. Mignon, closure

of it, while the cardia becomes dilated into the form of a funnel. Dilatation of the cardia once established, there remains no longer the obstacle to the passage through it of the alimentary matter, which most authors who have written on the subject regard as furnishing the reason why a horse cannot perform an act so facile to most other animals, viz. *vomit*. When this becomes the condition of parts, the act is for the first time performed through the contraction of the abdominal parietes alone, favoured by the straightened rigidity (*direction imprimée*) of the neck.

In this manner it is, according to the learned veterinarian just cited, that we are to account for the dilatation of the cardia, a principal, if not an indispensable, element in the possibility of vomition. Such dilatation may exist but for a time, as in cases of vomition followed by recovery; but in the case before us it was otherwise.

We can readily imagine that the repetition of such phenomena for any length of time would end in complete and confirmed paralysis of the stomach. Without a permanent dilatation of the cardia, which had been impossible without established paralysis of its fleshy fibres, we could hardly explain the facility, and in particular the frequency, with which the animal vomited.

To resume. The pyloric lesion sets up an obstacle to the passage of the digested matters out of the stomach, whose parietes in consequence become distended to the extremest limits of their elasticity; out of which distension, as well as from repeated and sustained though ineffectual contractions of the muscular coat paralysis, temporary at first, arises, ending in dilatation of the cardia, from which moment the animal is able to vomit: all which ends in perpetuality of these phenomena;—the pyloric obstacle continuing, paralysis without doubt sets in shortly after, which will explain the frequency and facility of the vomitions.

As will have been perceived, it is by the aid of the most favorably received theory at the present day that we have endeavoured to interpret a pathological fact which we commit to the meditations of our colleagues. To us it has the appearance of being incontestible evidence of the theory; indeed, it seems to set it in that plain daylight that henceforth it will be all but impossible to reject the theory without denying the fact.—*Recueil de Méd. Vét.*, March 1852.

Home Department.

ON THE ORIGIN OF VETERINARY SCIENCE IN GREAT BRITAIN.

FROM THE
VETERINARY AND PHYSIOLOGICAL ESSAYS,

By RICHARD VINES, M.R.C.V.S.

Late Demonstrator of Anatomy at the Royal Veterinary College.

ENGLAND appears to have been almost the last among the nations of Europe which attempted the encouragement of the scientific study of this most useful profession, and it was not until the year 1788 that the first proposals for establishing a veterinary school were published in London, by M. Vial de St. Bel, who had previously received a professional education at the Royal College of Lyons, and subsequently held the office of junior assistant in that of Paris.

The first veterinary school in France was established at Lyons, by royal mandate, in 1761, when M. Bourgelat, a gentleman of that city, and subsequently a voluminous writer, was appointed professor. Four years after this, another school was opened at Alfort, near Paris; and similar establishments likewise followed in Vienna, Berlin, Copenhagen, Stutgard, Wirtemberg, and Utrecht in Holland.

St. Bel informs us that in consequence of having been superseded in a promotion which he had a right to expect, through the then Master of the Horse to the King of France, he was resolved to come over to England to pass some time in observing the state of rural economy in this country, in examining the different breeds of cattle, and especially horses—in a word, whatever had any relation to the principal objects of his favorite profession. “I communicated my design,” says he, “to M. Broussonet, M.D., perpetual secretary to the Royal Society of Agriculture in Paris, and Fellow of the Royal Society of London. His reply to me was remarkable. He told me that if I went to England with the above intentions, I should be astonished at the beauty and value of the domestic animals of all kinds, and that I should find agriculture in the highest state of perfection, but that I should find the veterinary art totally neglected. But he added, that if

I were inclined to risk some proposals for improving that art, he would almost undertake to answer for their being well received. He gave me letters of recommendation to Sir Joseph Banks, Bart., and to Dr. Simmons. Thus encouraged, I came to England in June, 1788. Two months after my arrival in London, I published proposals for forming a veterinary school, but they produced no effect. This disappointment, however, did not destroy my hopes; for in the month of October, 1789, I published fresh proposals to read lectures on the veterinary art. These proposals met with no better success, and I confess this second disappointment nearly disheartened me. I endeavoured to trace the secret causes which so stubbornly resisted my success, and I soon perceived that the opulence and mild government of England offered an endless field to foreign adventurers of every description by whom the nation was daily imposed upon, and repeated experience of such impositions naturally excited mistrust towards foreigners in general; and as the honesty of my views was not written in my face, patience and perseverance became my only resources. About this time I had the good fortune to become acquainted with a gentleman who was led by a decided taste for the art, and a long desire of having it introduced into his own country who engaged in frequent discussions with me on the subject, when I made him acquainted with the whole of my plans, and of the little encouragement I had met with. This gentleman eagerly responded to my views, and bid me not despair of success, assuring me that by persisting in my proposals, the reason of the thing would sooner or later carry the victory. He had also the friendship to give me particular assistance in drawing up proposals better adapted to the customs and genius of the nation, which represented in an able manner the advantage of studying the veterinary art; these proposals were distributed in May, 1790, and consisted of 28 pages octavo, entitled "Plan for establishing an Institution to Cultivate and teach Veterinary Medicine."* I carried several of them to Newmarket, where they were well received, and I brought back the names of a few subscribers. About the end of May I sent several copies to the societies at Odiham, Bath, and Manchester. The former society had some time before proposed to send two pupils annually to study in the schools of France, and had opened a fund for the improvement of farriery. On the receipt of my plan, they did me the honour to pass a resolution of approbation, and to elect

* See Dr. Simmon's Journal.

me an honorary member of their society, and they expressed their opinion of the expediency of establishing an institution similar to those in France, Germany, &c. I added a few names to my subscribers, and deferred taking any further step till the following winter. During this interval the Odiham Society proposed a premium for the best treatise on the glanders, and appointed a committee to meet at the Blenheim coffee-house, to consider of the best method of improving farriery.

“This committee met in the close of the year 1790: two treatises only being presented, one by their zealous and respectable Vice-President, the late Sir William Fordyce, and the other by myself. Several meetings took place without anything very effectual being done, till, at length, in one of these meetings, the committee passed a resolution to the following purport—‘That they had observed the good effect produced on the public mind by the exertions of the Odiham Society for the Improvement of Farriery, and by my plan proposed, for establishing a public institution for that purpose; that the object of that society was one and the same with that contained in my plan, and that the two schemes ought to be consolidated into one.’ This was done; I was appointed professor. A few days after, the committee, by another resolution, detached themselves entirely from the Odiham Society, and erected themselves into an independent society (assigning the reasons for taking that step), by the name of the Veterinary College of London.”

From among the earliest and most sincere friends who subscribed toward the establishment and support of this institution, we may select the names of Earl Grosvenor, Mr. Penn, Earl Moreton, Sir J. C. Bunbury, Dr. Crawford, and that most distinguished surgeon, John Hunter, who, as we are very justly informed, saw its importance in a strong point of view, as a field opened towards the cultivation of comparative anatomy, and which was the cause of his rendering it all the assistance in his power, not only as regards pecuniary, but likewise his professional interest. It is also stated that the Duke of Northumberland was elected president, and that he contributed 500 guineas towards the support of this most useful institution, and that there were many other noblemen and gentlemen who came forward with beneficent donations.

Among the names of the first pupils who entered the Veterinary College, and who have distinguished themselves in their profession, we may select those of Mr. Bracy Clark, Mr. Lawrence, and Mr. Blaine; the last of whom, in

his "Veterinary Outlines," informs us that, prior to his entering the College, he was brought up as a human surgeon, and that on his becoming connected with that establishment he was selected, and really did act, as an assistant to the newly-established professor.

Professor St. Bel, it appears, had scarcely occupied his new situation a year, when, after being ill only about a fortnight, death terminated his existence, and in consequence thereof the prospects of the institution became greatly affected; but owing to the patronage of the then subscribers, it ultimately survived this event.

Mr. Blaine says, "On the death of M. St. Bel, the public attention was of course engaged in considering on whom the vacant professorship would devolve; some eyes were directed to myself, many more to Mr. Clarke, of Edinburgh, who, however, refused it. But Mr. Morecroft, then in practice as a veterinary surgeon, appeared the most eligible person. Mr. Morecroft was originally a student of human medicine, but he had lately studied veterinary medicine in the French schools, and was considered to possess extensive information on the subject. Mr. Coleman, a medical pupil of the Borough hospitals, who had much distinguished himself by some physiological inquiries, and by some experiments on the diseases of the eyes of the horse, was brought forward likewise; although his designs had never, I believe, reached further than this, nor had his attention at that time ever been engaged beyond that point. The fitness of Mr. Morecroft was, however, so nicely balanced by the interest of Mr. Coleman, that it was determined to *unite* them in the professorship: from the practical knowledge of the one, and the investigations of the other, everything being to be hoped from the association; but Mr. Morecroft finding that he had quitted a profitable concern, soon seceded, and Mr. Coleman, who successfully applied himself to fill up by his own talents the loss of his colleague, was appointed sole professor."

It is further observed by others who have written on this subject, that Mr. Coleman, "on being left to the exercise of his own resources, appears to have fully justified the expectations which were entertained from his polite and conciliatory address and pleasing manners; for in a short time the confidence of the subscribers and the public (on account of the death of M. St. Bel) was again restored, and many noblemen and gentlemen who had withdrawn their names on seeing the former unpromising state of the institution, again rejoined it." In consequence of the introduction of Mr. Coleman, a medical committee was likewise appointed, con-

sisting of the most distinguished medical practitioners in London, by whom the pupils were to be examined, and to whom, if found to have acquired a sufficient knowledge of the art, certificates were to be granted.

This medical examining committee, in consequence of being most of them lecturers on human anatomy, with the utmost degree of liberality also gave admittance to the veterinary pupils to attend their lectures gratis; and this spirited example was likewise followed by several other professors of human medicine.

Professor Coleman likewise succeeded in procuring the patronage of Government, and for several successive years a sum of money was voted by the Parliament towards the aid of the institution; and—no doubt as an inducement to young men of education and respectability to become students—in consideration of the anticipated benefits which might arise from the employment of veterinary surgeons, George the Third granted the rank of commissioned officers to such as might be appointed to regiments. Since the establishment of this institution a large number of young men have studied within its walls, and are disseminated over England, Scotland, Ireland, &c., and from the knowledge they have gained, are daily placing this new profession in the road towards improvement, and thereby extending the bounds of veterinary knowledge.

About the year 1827, the Directors of the Honorable East India Company, observing the good effect produced by the appointment of veterinary surgeons to the British Cavalry, was likewise induced to grant the like appointment to such respectable young men who might think fit to join their native India regiments; and this act has been the cause of inducing a great many to enter the service, and which will likewise be the means of extending veterinary information over that part of the globe also.

A course of lectures is still given by Professor Coleman throughout the season; the pupils are still examined by a similar medical committee, and allowed to attend lectures on human anatomy, chemistry, &c., on the terms already mentioned. Demonstrations on anatomy, &c., are given daily in the dissecting rooms of the College—and the pupils have likewise the advantage of dissecting subjects themselves, and also of seeing the practice of the infirmary.

These advantages, and, as we understand, there are others in the College likewise to be obtained, the pupil ought, during his stay, if he has any regard towards his *future success* in life, to diligently embrace; more particularly as regards dis-

secting, and the study of anatomy, physiology, &c., because it is the foundation, and thereby leads to successful practice respecting the treatment of diseases; and he who becomes a good anatomist will never have any cause to repent, for it has been very justly observed “before the establishment of the Royal Veterinary College, for successive centuries, the ignorant blacksmith was permitted to trifle with the diseases of our domestic animals, and thereby add to their sufferings the infliction of unnecessary torment;” and perhaps it would have remained the same to this day if St. Bel had not appeared, and those liberal noblemen and gentlemen already mentioned, had not come forward and rendered him their assistance. In justice to the first Professor of the Royal Veterinary College, as well as to the medical gentlemen who at that day were connected with him, we cannot do better than here record the following observations, extracted from one of his works, because it will tend to show the idea which was entertained at that time respecting the study of anatomy, &c., and the scientific object which they had in view.

“We know that the physicians of all ages applied themselves to the dissection of animals, and that it was almost entirely by analogy, that those of Greece and Rome judged of the structure of the human body. We are told, indeed, that Herophilus and Erasistratus studied anatomy on the human frame some centuries before the Christian era, and that the former even dissected living subjects, having obtained the bodies of malefactors for that purpose; but it does not appear that this practice was continued. On the other hand, it is abundantly proved from history, that the great progress of anatomy, till within a few centuries; was made by the dissection of brutes. In Egypt and the East, as also in Greece and Rome, the dissection of the human body was held in abhorrence; nor could any one dare to attempt it, without offending against the authority of the law, or the more formidable authority of public opinion. This superstitious reverence for the dead, which prevailed for many centuries, confined both the Greeks and Arabians to the dissection of apes and quadrupeds.* Galen has given us the anatomy of the ape for that of man; and it is clear that his dissections were restricted to brutes, when he says, that if learned physicians have been guilty of gross errors, it was because they neglected to dissect animals. The dissection of the human frame was accounted sacrilegious in the time

* Gibbon: *Decline of Rom. Emp.*, ch. lii; *Coutumes des Peuples*, par M. Demeunier, tom. iii, p. 255.

of Francis the First of France; and the Emperor Charles the Fifth, proposed the question to the theologians of Salamanca, whether it was lawful to open a human body in order to become acquainted with the structure. ‘Which is the less to be wondered at,’ says Mr. Boyle, ‘because even in this our age, that great people the Muscovites, have denied physicians the use of anatomy and skeletons; the former as an inhuman thing, the latter as fit for little but witchcraft.’ And he mentions one Quirin, an excellent German surgeon, who being found with a skeleton in Muscovy, hardly escaped with his life, and his skeleton, which he was obliged to leave behind him, was burned.* During these superstitious times, however, the foundation of anatomical knowledge was laid; and if we are to regret those prejudices which so long opposed that perfection of the science to which it has since attained, we are no less to admire the compass of anatomical knowledge which zootomy and the study of the organisation of brutes was able to afford. The same Mr. Boyle having occasion to mention the scruples we have been speaking of, observes, ‘It was perhaps on some such account, that Aristotle said, that the external parts of the body were best known in man, the internal in beasts.’ It would be no difficult task to give a regular chronological account of the progress of comparative anatomy, and of the anatomists who applied themselves to that study, but as I do not pretend to write here the history of that science, I shall at present confine myself to the names of a few principal persons, and of the discoveries they made by means of zootomy. Erasistratus was the first who observed the lacteal veins in kids which he opened a short time after they had sucked; he observed the valves of the heart, and demonstrated, contrary to the opinion of Plato, that there was behind the trachea (windpipe), a canal or passage, viz., the œsophagus, whose office was to convey food into the stomach. Rufus, of Ephesus, we are told, described those two ducts, the discovery of which is attributed to Fallopius, and from him are called the Fallopian tubes in the second century; these he discovered in dissecting the womb of an ewe; and adds, ‘that he strongly suspects them to be seminal vessels, and of the same nature with those in males, called the varicose prostate.’† Galen demonstrated at Rome on living animals, the organs of sound and respiration; he made several observations on the brain of animals; he also showed the effect produced by ligature on the recurrent nerves. Vesalius showed by experiments on animals, that it

* Boyle, vol. ii, p. 68, ‘Usefulness of Natural Philosophy.’

† Duten’s Enquiry, &c., p. 223.

was possible to restore suspended animation by blowing air into the trachea, which discovery has saved the lives of many individuals. Croon and Hook, two English physicians, repeated the same experiments a century afterwards, and with success. Wharton, a physician of London, discovered the salivary glands in an ox, in 1659. Eustachius was the first who found out the thoracic duct in the horse; and a hundred years after, the same canal was discovered in man. The immortal Harvey, assisted by experiments made on living animals, effected a total revolution in medicine, by the famous discovery of the circulation of the blood. Dr. Wren, Professor in the University of Oxford, made several experiments on living animals, to be assured of the effects of different substances on the blood and solid parts, the result of which experiments was to confirm the discovery of Harvey, which for the space of forty years was strenuously opposed."

Gesner Aselius, professor of anatomy at Pavia, repeated the discovery of the lacteal veins in the mesentery, in brute bodies, which had formerly been known to Erasistratus and Herophilus.

Pecquet traced them to the thorax, and completed his discovery by that of the thoracic duct in 1647. It was in the bodies of brutes, also, that Bartholinus discovered the vasa lymphatica.

Stenon, a native of Copenhagen, but afterwards physician to Ferdinand the Second, Grand Duke of Tuscany, discovered, in 1661, the excretory ducts of the lacrymal gland in the eye of a sheep. Malpighi and Bellini, in 1665, described the organs of taste, &c., from the dissection of quadrupeds; but here, analogy led them into some errors. Malpighi's observations on the organ of feeling, were first made on the skins of brutes, and afterwards verified on the human skin. Weiff made experiments on the hearts of living animals, to prove that the auricles were equal. In 1641, Maurice Hoffman, professor of physic at Altdorff, discovered the excretory duct of the pancreas in a turkey cock. The peristaltic motion of the intestines was first discovered in animals. In a word, the greater part of the functions of the human frame were first made known by the general analogy subsisting between the functions of animal organisation. I shall forbear speaking of repeated experiments which have been made on these same animals, with a view to explain those phenomena the causes of which nature seems to have entirely removed from our comprehension, such as the mystery of muscular motion, of generation, and of the real functions of the brain, &c. All these fruitless endeavours have given rise to systems,

which proved infinitely more prejudicial than useful to the science they pretend to illustrate. With regard to the advantages which have resulted to the healing art, from observations or experiments made on the bodies of diseased brutes, it would be unseasonable in this place to enter into a prolix account, since it would extend too far the limits of this discourse.

It is well known that the first purgative medicine was hellebore, which is said in ancient history to have been discovered by Melampus, who observed the effect it produced on goats. Many such accidental observations, as well as curious experiments, have improved the means of healing. I shall close this account with the testimony of the learned Dr. Friend, who, speaking of the use of the seton, which was in vogue in the twelfth and thirteenth centuries, both in the East and in Europe, concludes thus—"I rather mention this, because it seems to be not improbable that this hint, as many others have been, was at first taken from a practice very common among cattle-doctors. Columella, who wrote in Claudius's time, describes the operation very fully and elegantly, in these words:—'*Præsens etiam remedium, &c.*' The method here used is still in vogue with the herdsmen; and what is proposed by Columella, is with regard to the plague, or some epidemical infection among cows; and accordingly we find, that the same remedy by issues was afterwards applied to a human body in the same distemper; first by J. Arculanus, who flourished in the fifteenth century; and from his example, several physicians in the succeeding age, recommended them as one of the most effectual preservatives in that terrible disease. From all that has been said, though in a summary manner, it appears that the science we are here to cultivate is able in itself, and has given unequivocal proofs of its ability, to enlarge the boundaries of general medicine. It is to be considered, however, at present but in an infant state; and it is our duty to secure ourselves against the contagion of system and hypothesis. To effect this, it will be our constant care to adopt nothing but what shall have been faithfully examined and proved; to demonstrate nothing but what the understandings of the pupils may fully apprehend; and to adhere rigorously to the elementary principles of the science. The result of which will be, a simple theory, upon which they will one day be able to establish an enlightened practice, supported by observation and experience."

From these remarks we may conceive, that the first founders of the Royal Veterinary College considered that a true knowledge of anatomy and physiology were the only means of

obtaining a proper foundation for the successful practice of veterinary science, and most assuredly when the veterinary practitioner, *in consequence of the extensive opportunity which he has, not only of examining diseased parts after death, but likewise of dissecting for anatomical purposes, and more particularly when all the most important discoveries, and on which almost the whole of the science respecting human practice has been laid, were in the first instance obtained by dissections and experiments made on animals*; most assuredly the veterinarian ought never to lose sight of this, but endeavour to make himself, in the first instance, fully acquainted with these most important subjects; and as well as these remarks being applicable to the veterinary practitioner, they are also, to a certain extent, referable to the human; for it has been very justly noticed by that celebrated anatomist, Mr. J. Bell, "Of all the lessons which a young man entering into our profession needs to learn, this is perhaps the first—that he should resist the fascinations of doctrines and hypotheses till he have won the privilege of such studies by honest labour, and a *faithful pursuit of real and useful knowledge*. Of this knowledge, anatomy surely forms the greatest share. Anatomy, even while it is neglected, is universally acknowledged to be the very basis of all medical skill. It is by anatomy that the physician guesses at the seat, or causes, or consequences, of any internal disease; without anatomy the surgeon could not move one step in his great operations; and those theories could not even be conceived which so often usurp the place of that very science from which they should flow as probabilities and conjectures only, drawn from its store of facts.

A consciousness of the high value of anatomical knowledge never entirely leaves the mind of the student. He begins with a strong conviction that this is the great study, and with an ardent desire to master all its difficulties: if he relaxes in the pursuit, it is from the difficulties of the task, and the seduction of theories too little dependent on anatomy, and too easily accessible without its help. His desire for real knowledge revives only when the opportunity is lost, when he is to leave the schools of medicine, *when he is to give an account of his studies*, and with an anxious and oppressed mind, *conscious of his ignorance in that branch which is to be received as the chief test of his professional skill*, or when, perhaps, he feels a more serious and manly impression, the difficulty and importance of that art which he is called to practise."

Mr. Percivall, in his introduction to "A Series of Elementary Lectures on Veterinary Science," in drawing a comparison between such practitioners as have carefully studied anatomy

and those who have not, very wisely observes, "No man supposes that his watch can be repaired at the anvil, though there are those who send their horses to the blacksmith to be cured of their disorders: they know that this blacksmith is unacquainted with the mechanism of a watch, and yet they intrust a machine to him to which, in point of complication, a rattle bears more affinity to a watch than a watch to it! Why then are gentlemen so blind? Is it that a horse is of less value than a watch? No! The vile trash diffused in *treatises of farriery* is so truly disgusting to a man of common reflection, that he forms his opinion of the art by those he entertains of the book, and considers it specially adapted to the genius of his groom or coachman, or suitably lodged within the scullcap of his blacksmith or bellhanger, below the dignity of a man of education, and incompatible with the habits of a gentleman." "Miserable animal," says St. Bel, "bereft of speech, thou canst not complain when to the disease with which thou art afflicted, excruciating torments are superadded by the ignorant effects of such men, who, at first sight, and without any investigation to lead them to the source of thy disorder, pronounce a hackneyed common-place opinion on thy case, and then proceed with all expedition, to open thy veins, lacerate thy flesh, cauterize thy sinews, and drench thy stomach with drugs adverse in general to the cure they engage to perform."

These remarks of Mr. Percivall and Mr. John Bell are truly valuable, because, without a knowledge of anatomy and physiology, no one will be able to practise in the veterinary profession with *benefit to his employers* and credit to himself.

In concluding these observations, it will be necessary to remark, although we have endeavoured to show the real necessity of anatomical knowledge, yet we wish it fully to be understood that, for the advancement of the science of pathology, or the treatment of organic disease, not only as regards veterinary, but likewise in the human profession, anatomy ought to be taught *in as simple and clear a manner as possible*; for if not, the student, in some instances, from considering the difficulty of the task which he has before him, becomes disgusted with the intricate nature of the subject, and the result is, that instead of gaining a perfect he only gains an imperfect knowledge of that branch of science which he will find of the greatest service to establish him in the successful practice of his profession.

Mr. J. Bell very judiciously adds, "If these negligences stand excused on any account, it is on this only, that anatomists have been accustomed to write, not for the public,

in plain and simple language, but for each other in an unknown tongue. By this, I mean not a foreign or dead language, but a peculiar style and phrase which no one can understand unless he be initiated; unless he have studied the science itself so intensely that he has also learned the jargon in which it is conveyed; in short, no one but a thorough anatomist can understand the language of anatomy, nor can even he understand it without some labour. Anatomists have buried their science under the rubbish of names; there is not a difficult, a hard-sounding word upon which they have any claim that they have not retained; they have choked their subject with useless minutiae." An anatomist, for example, will describe an artery as "going to the radial edge of the second metacarpal bone, then supplying the abductor and flexor muscles, then going along the bone of the first phalanx, seated upon this second metacarpal bone," with many other distortions, ambiguities, and little contrivances to conceal (as one would believe), that he is describing so simple a matter as the artery of the fore finger, which the reader at last finds out either by some lucky chance, or by reflecting how many metacarpal bones there are, and then reckoning them first forwards and then backwards, that he may be sure which it is that the author means; for his author may count from the little finger towards the thumb, or from the thumb towards the little finger; or he may have a fancy of leaving out the thumb, and reckoning only four. What must be the surprise of a well-educated young man when he reads those books which he must study, of the regions of the elbow, or thumb, or fore finger? And if an anatomist understands such things with difficulty, how distressing must they be to the student?

This scholastic jargon, which has so long been the pride of anatomists and the *disgrace of their science*, which has given young men a dislike for the more useful of all their studies, it is now full time to banish from our schools. These are the authors who avoid plainness as if it were meanness; who are studious of hard words, as if they constituted the perfections of science—"it is their trade, it is their mystery to write obscurely," and full surely does the student feel it.

Want of arrangement, again, has still worse effects. Confusion is a monster in science; and Thompson has, in his 'Man of the Moon,' described such a thing with great spirit and life:—"A creature, if that may be called a creature which had no shape nor form, next rolled towards him, approaching still nearer and nearer, and, by various glances and movements, seemed to indicate a sympathy with man: it

was a uniform mass : legs and arms, fingers and toes, and membranes, and glands, and entrails, and teeth, were blended into one abominable mass.”

VETERINARY DEPARTMENT IN INDIA.

No. 198 A. of 1827.—With reference to General Orders, No. 31, of the 9th February, 1827, the Vice-President in Council is pleased to lay down the following Scale of Pay and Allowances, for Veterinary Surgeons on this Establishment, in accordance with the Instructions of the Honorable Court of Directors, communicated in their General Letter, dated 6th September, 1826.

		ST.	RS.	A.	H.
Pay for any Month.	1st Class { Veterinary Surgeon above 20				
	Years' Service, 15s. a-day	182	10	0	
	2d. „ Above 10 years, 12s. .	146	1	6	
	3d. „ Above 3 years, 10s. . .	121	12	0	
	4th. „ Under 3 years, 8s. . . .	97	6	5	
Allowance for any Month.	Full Batta	121	12	0	
	Full Tentage	50	0	0	
	Gratuity	24	0	0	
	Horse Allowance— <i>Sc. Rs.</i> 60 0 0				
	Deduct 1 Shilling a-day, included in the Pay } <i>Sc. Rs.</i> 12 0 9				
	Palanqueen Allowance	47	13	3	
		30	7	0	
Total, exclusive of the Pay appropriate to the Class of each, Sonat Rupees		274	0	3	

The Horse and Palanqueen Allowance will be drawn under the same Rules that govern the Claims of Assistant Surgeons of Cavalry Corps.

Veterinary Surgeons will be entitled to the indulgence of Boat Allowance on proceeding to join a Regiment on their first arrival in India, as prescribed in Paragraph Five of General Orders, 19th September, 1818.

The rates of Pay and Allowances now authorised are applicable to Veterinary Surgeons of His Majesty's Service on this Establishment. Service out of India will give them a Claim to the higher rates of Pay, but they will only be permitted to draw, in the aggregate, the same amount of Pay

and Regimental Allowances as is granted to the Veterinary Surgeons of the Company's Army of the same length of Service in India. Any difference arising out of the application of this rule will be deducted from the Batta of the individual. This order to have effect from the 1st proximo.

The Honorable the Court of Directors having ordered that Veterinary Surgeons are to be supplied with Professional Instruments from the Public Stores, the requisite articles are to be issued to them gratis from the Medical Depôts, on Indent, previously sanctioned by the Medical Board. The Instruments thus furnished are to be considered public property, and, as such, a Quarterly Return of them is to be made by the Veterinary Surgeons respectively to the Medical Board, and they are to be entered on the Returns of Quarter Masters, to whose custody they will be intrusted whenever a Veterinary Surgeon quits a Regiment without being regularly relieved at the time by a successor.

When any of the Instruments are worn out, or become otherwise unserviceable, they are, after survey, to be replaced by Indent, prepared and attested in the prescribed form, and countersigned by the Commanding Officer of the Corps, previous to transmission to the Secretary of the Medical Board.

When a Cavalry Regiment of His Majesty's Service quits India the Instruments are to be returned into the nearest Medical Depôt, and a receipt is to be taken for them.

Veterinary Surgeons being authorised to indent on the Medical Stores for such Medicines as they may require, strictly applicable to the public service, the cost of them is, in the first instance, to be placed to the debit of the Veterinary Surgeon, who will be held responsible to Government; but, as officers in command of troops draw a monthly allowance for each horse, for the express purpose of supplying, amongst other articles enumerated, proper "Musalas and Physic," the Bill of Charges for Veterinary Medicines, furnished on Indent from the Public Stores, for the use of a mounted Corps, to be laid by the Veterinary Surgeon before the Commanding Officer, who will cause him to be reimbursed by Officers Commanding Troops, apportioning the amount of the charges to be adjusted by them, and collecting it through the Regimental Staff.

All Indents prepared by Veterinary Surgeons are to be in due form, and to be countersigned by Commanding Officers of Corps respectively, previous to transmission to the Medical Board.

REGULATIONS IN INDIA, REGARDING THE DUTY OF
VETERINARY SURGEONS ATTACHED TO BRIGADES OF
HORSE ARTILLERY.

THE Veterinary Surgeon has the care of all the sick and lame Horses of the Brigade, and the particular superintendence of the Shoeing, to which he will pay unremitting attention. It is also his duty, to bring under the notice of the Officer Commanding the Brigade, any circumstances which appear to him of material consequence to the general health of the Horses, and immediately to report to him any appearance of Glanders, or of any other contagious disease.

2 He will deliver to the Commanding Officer, every Monday Morning, a Report of the sick and lame Horses in the part of the Brigade at Head Quarters, and will certify, at the foot of it, that, during the week, he has inspected every Horse in the Stables.

3 Any Horse that is taken ill, is to be immediately reported to the Veterinary Surgeon, and Officers Commanding Troops are expected to give him all the assistance in their power, and strictly to enforce obedience to his directions. It will rest with him, when to order a sick Horse to the Hospital Stable, which is entirely under his charge, and no Horse is to be removed from it to the Lines but by his order.

4 He is to keep a book which will contain Registers of his practice, in cases of sick and lame Horses, and of the measures which are adopted, when any contagious disease makes its appearance, specifying the remedies, or mode of treatment, and the result of such treatment.

5 He will take pains to instruct the Farriers, in the proper mode of paring the Horses' hoofs, and of Shoeing.

6 He will also take frequent occasion to instruct the Farrier Major and the Farriers of Troops in the common operations of Veterinary Surgery, as well as to point out the nature of his practice in ordinary cases, that they may know how to treat the Horses of their Troops, when they are detached from the Head Quarters of the Brigade. To assist them in attaining this knowledge, they are to be provided with a Book, in which they will register the several cases of the Horses in the Hospital Stable, noticing the symptoms and the treatment adopted by the Veterinary Surgeon. He will frequently inspect these Books, and see that they are correctly and distinctly kept.

7 He will attend all Brigade Committees for the admission of Horses, and will sign the Proceedings, as attending the Committee, in testimony that he has examined the Horses, and is satisfied that they are sound.

8 He will also attend all Committees assembled to Cast Horses of the Brigade to which he is attached, and before the assembly of the Annual Casting Committee, he will submit to the Commanding Officer a Roll of the Horses which he thinks ought to be presented to it.

Approved by His Excellency the Commander in Chief, and ordered to be circulated to the Brigades of Horse Artillery.

Adjutant General of the Army.

Adjutant General's Office, Head Quarters, Simla;
June, 1825.

RUSSIAN CAVALRY.

THE cavalry are well mounted on punchy, well-limbed, free-moving horses, most of them bred in Central Russia, and some brought from the Crimea and Ukraine. They are plain about the head, and rather short-necked; but in texture of bone and sinew indicate tolerable breeding. They are of very even stature, averaging, I should say at a guess, scarcely fifteen hands, and the equality is preserved by a wise rule of casting all colts that grow over a prescribed *maximum* standard of fifteen hands one inch.

With Russia's resources her cavalry is thus mounted on medium-sized troopers, which all experience knows to be the right sort for work, and at a price vastly below our English or Indian Remounts: 70 rubles, or 11*l.*, being the Government figure here for a three-year old; and the supply is so immense that every regiment I have seen musters its 1200 horses of one colour.

I have heard the temper of the Russian horses questioned: here, from the ferocious determination with which I have seen these animals take the collar in getting guns through bogs and heavy sand, I should say they are libelled.

The cavalry, I think, are over-schooled. Passing at a trot, the Emperor (of Russia) applied repeated tests of *manège*, which proved them handy, and with which his Majesty seemed satisfied: but, to acquire this proficiency, there is a deal of haunch-work, and a springing of hind-quarters, which

must of necessity impair speed, and consequently diminish the impetus of attack, in which velocity is as powder.—*Times*, June 28, 1852.

EXTRAORDINARY FEROCITY IN A HORSE.

[From the French paper.]

A CASE of ferocity in a horse, rarely equalled, has given rise to law proceedings before the courts of Rouen. On the 24th November last, a farmer, named Blanchard, of Verclive (Eure), possessed a horse, and in his presence, and with his consent, a horse-dealer, named Lavoipierre, sold it to a farmer named Delaisement, of Corny. The next day Blanchard told a young man in his service to convey the horse to Delaisement. The latter, however, refused to receive it, on the ground that he had learned that it was vicious and dangerous. In returning, the horse several times attempted to throw the young man, and at length, becoming quite furious at the restraint which the rider imposed on him, he bounded erect in the air, and succeeded in getting him off his back. The animal then rushed on him, bit him in the breast, and tried to trample on him. The young man defended himself as well as he was able, but the horse caught the flesh of his thigh in his teeth, and tore it off in the most savage manner, leaving the bone exposed. He then went some little distance and with his fore-paws formed a hole of some depth, and, then returning to his victim, who was lying almost senseless on the ground, he smelt around him, as if reflecting how he could best drag him to the hole. Some noise, however, at the moment struck his ear, and he galloped home. When he arrived, his mouth was stained with blood, and bits of flesh were still adhering to it. The young man, who was so dreadfully treated, had to have his leg amputated. He subsequently brought an action against Blanchard, Delaisement, and Lavoipierre, to recover 6000 francs damages. Blanchard contended that he was not responsible, as he had sold the horse some days before the accident to Lavoipierre. Lavoipierre alleged that this was not true, and all that he had had to do with the horse was to act as agent in the sale. Delaisement maintained that, as he had refused to receive the animal because he had been deceived with respect to its bad qualities, his agreement to purchase was null, and, therefore, he was not the proprietor. The tribunal held that no sale to Lavoipierre had been satisfactorily made out by Blanchard,

and that consequently the former was not in any way responsible for the accident. As to Blanchard, it postponed judgment until further proof be given that he knew the horse was dangerous. As to Delaisement, it held that he was proprietor of the horse at the moment of the accident, and accordingly ordered him to deposit 5000 francs on account of damages to be subsequently awarded, leaving him, however, to prove that he had been deceived by Blanchard. Both parties appealed to the Courts of Appeal against this decision. The court decided that the 5000 francs should be paid by both, subject to the condition of a new trial, to take place after the respective proofs shall be obtained of the relative responsibility of each.

ALLEGED GLANDERS IN THE HUMAN SUBJECT.

ON the 13th of May last three members of a family (the mother 45, the daughter 21, and the son 12 years of age,) were sent from Carlingford to the Dundalk union workhouse in a cart, as ill of glanders, the husband having died of that disease, as also a horse. The form of disease is that of several ulcers, and large chronic discharging abscesses. The unhappy patients in the present case are, since their admission, receiving a generous diet of eggs, meat, new milk, bread, and porter; and, as medical treatment, are taking quinine, preparations of iron, and cod-liver oil. Under this treatment they appear merely to remain without getting worse; they can scarcely be said to be improving as compared with their state when admitted. If it were not for the origin of their disease, one might attribute their illness to a scrofulous origin; however, the complaint has been distinctly and certainly traced to the diseased horse.—*Dublin Evening Mail*.

EPIDEMIC AMONG HORSES.

THE influenza among horses, so prevalent throughout the country during the past few months, continues its unabated course. It is a disease *so insidious in its nature as frequently to escape detection until the more serious lesions have gained too*

firm a hold. The cough, which at other times is a mere temporary irritation in the air passages, and which nursing generally removes, is at the present unwholesome period a symptom of considerable danger. It has this year been more general in its attack than on any previous occasion of its visit to this country; hence the losses sustained have been greater than in any season within our remembrance. It presents, too, *peculiarities hitherto unobserved by the veterinary profession*, and in frequent instances *baffles the skill of the most eminent of that body.* Our own town has been no exception to the rule. Many valuable horses of the cart and other breeds have fallen victims to its ravages, and at the present time a number of owners of this useful animal are deprived of its services, owing to this treacherous affection.—*Sheffield Times.*

* * * Probably some of our friends in the profession in this part of the country will favour us with some account of this “insidious,” and “peculiar,” and “baffling” disease. —
ED. VET.

DESTRUCTION OF HORSES BY BEES.

A MOST extraordinary incident has just taken place at Guilleville, in France. A farmer, who occupied himself much in the honey trade, had 250 hives collected in a field. Another farmer, regardless of the dangerous neighbours, left a waggon load of hay, drawn by five horses, in the field. The busy bees “improved the shining hour” by an attack upon the horses. They sallied forth in buzzing masses, and speedily killed (how?) one of the horses, and laid the remainder rolling in agony upon the ground. The driver of the waggon then came to the rescue, and attempted to drive away the bees; but they attacked him, and he had to plunge into a pond, and even to place his head under water for a few seconds in order to escape from them. The *curé* of Guilleville also attempted to approach, but he too was put to flight by the enraged insects. At length two fire-engines were sent for, and by pumping on the bees a great number were killed on the horses or put to flight. The horses, however, were so much injured that they died in an hour. The value of the bees destroyed was 1500 francs, and of the horses 2000 francs. A few days before, the bees from the same hive killed seventeen goslings.—*Bell's Life.*

REMARKABLE DAYS IN JULY.

[THE gentleman, a V. S., to whose kindness we are indebted for the following, observes to us—"I am doing all I can in my neighbourhood to suppress the practice of tying dogs up at this particular time of year. If "THE VETERINARIAN" would only invite the members of our profession to a sense of their duty, to themselves as well as to the public, we should annihilate this abominable custom, alike disgraceful to us and to the country at large. We should, too, be exercising a right *peculiarly our own*, conferring a good upon the canine race, and, I should opine, not a little credit upon ourselves."—ED. VET.]

The most remarkable days in July are the Dog-days and St. Swithin. On the third of the month, in our popular almanacs, appears the awful announcement, "Dog-days begin." The beginning of the Dog-days has varied in different countries; but the event has always been regulated by a peculiar rising of the Dog-star, otherwise called Sirius. The first method of calculating the matter was to date from the time when the star became visible after it had been concealed by the greater light of the sun; whereas the modern method is to date from the time when the star begins to rise with the sun, or is in conjunction with it.

The origin of the name Sirius or Dog-star, was this:—A long experience taught the inhabitants of Egypt that soon after the time when the star escaped from the sun, the periodical inundation of the Nile took place; wherefore the natural indicator of so very important an event obtained the name of *Sihor*, meaning "the Nile" of the heavens. But the Greeks adopted the name without caring about the cause of it, and, according to the rule of their language, wrote it *Seirios*; as the Latins, according to the genius of their language, wrote it *Sirius*, which is the name at present used by astronomers.

The Greeks having thus vaguely adopted the name of an indicator, soon found reason for believing that the peculiar rising of the star in summer indicated the event of sultry weather, and its various injurious effects; and such theories, of course, passed on with the name to Italy. But, in this latter country, the star was moreover called by names which meant a Dog, or Dog-star, for reasons, no doubt, which also prevailed in Greece; and the "sultry" object became the supposed "direful spring of woes unnumbered." He was

said to cleave the gaping fields with drought ; to send worms and caterpillars ; to dry up springs ; to cause plague, pestilence, and famine amongst men and cattle ; to burn up the pastures ; and *to drive dogs mad*. Hence, *brown* dogs were sacrificed to this star, in emblem of its scorching influence ; and at Argos, during a *Cynophontis*, or “ dog-killing ” festival, all dogs found loose were put to death.

This notion about the influence of Sirius on dogs resulted from a misinterpretation of the Egyptian hieroglyphic of the star, which was a dog, or a dog’s head. The hieroglyphic taught that the star gave the faithful warning of a watch-dog to the inhabitants of Egypt, in reference to the overflowing of the Nile ; but in Greece and Italy the original import of the figure became altogether lost sight of, and fancy built on the hieroglyphic those popular fables which continue to influence civilised England in the nineteenth century of the Christian era.

Popular Notions about Hydrophobia.

Great heat is most erroneously supposed to be the cause of this disease in dogs ; whereas, as the celebrated John Hunter shows, not one case of it occurred in Jamaica for forty years ; and Dr. Thomas, who lived in the West Indies a long time, never saw, nor heard of, a case of rabies there. In Egypt the disease is unknown ; and at the Cape of Good Hope it is very seldom met with. The greatest number of cases of it in England occur in April and September.—See *Cooper’s Surgical Dictionary*, article “*Hydrophobia*.”

THE VETERINARIAN, AUGUST 1, 1852.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

At a season of the year when the “ Dog Days ” are scarcely past in the calendar, and certainly while their ominous influence, so far as any excitement atmospheric heat may convey, still continues in force, a few cursory remarks on *mad dogs* may not be out of place ; particularly as

the public mind, at this especial season, is apt to be morbidly sensitive on the subject, as the following short paragraph, which we take from the *Morning Post* of the 20th of July last, is only another proof:—"On Wednesday, a mad dog was killed in Tavistock Square. Although the usual notices have been put forth by the different parishes, cautioning the owners of dogs *to have them muzzled* at this season, yet one of the scarcest things to be seen at present is a dog that has been (is?) muzzled."

We had entertained some hope that the sensible letter of Mr. Litt, V.S., of Shrewsbury, sent last June to the *Shrewsbury Chronicle*,* might have obtained sufficient circulation, even in our metropolitan journals, to have rendered the subject a fitting one for further investigation, if not to have created interest enough in it to make it matter of question, whether or not the practice of *muzzling* dogs really was or was not calculated to fulfil the intentions designed by it. Mr. Litt says, and we join issue with him in the observations—"The quietest of dogs may be made savage by keeping them continually tied up; and the use of the muzzle alone will, in most cases, make them snappish and ill-tempered." Added to which, stands the fact, as stated, on authority, by him, "That dogs are not more subject to rabies in hot weather than in cold," and that, therefore, it would be as reasonable to muzzle dogs in December as in July. Muzzling, however, is one of our grandmama's practices; and we all know with what bird-lime tenacity old customs of this, or almost any other sort, are, without inquiring into their right or wrong, obstinately clung to.

To take reason along with us in the consideration of such matters, if we wish to prevent a disease, we usually find it desirable to search for the cause or causes of such disease; and having found them, we use all means in our power to eschew them, or else to shield our subject from their operation. To apply this in the case before us: if rabies be caused by transmission of the saliva of a rabid subject, and by that alone, it is evident that the muzzle cannot save one dog

* Extracted into our Journal for December 1851.

from being bitten by another, though it may prevent that other from biting anything else. So far so good. Would it not, however, be more reasonable to keep dogs out of the way of being bitten, or rather to insist that every dog that was bitten, or that showed any signs of madness, should be at once destroyed. Keeping dogs confined or tied up appears hardly less objectionable than muzzling; and besides it may with some reason be asked, first, at what season or time of the year are we to do this; and secondly, for how long are we to keep them in confinement?

But we are told that rabies may be produced from other causes—may be, in fact, *spontaneous* in its origin. Now, in this case, the muzzle may be regarded as tending to create an evil against which it is intended, when actually produced, to guard against the consequences of. It is likely, particularly in hot weather, to make the dog “ill-tempered and snappish;” in a word, to render him irritable and excitable, and consequently more apt and ready to take rabies, or disease of any kind in which his nervous system is implicated, than a dog in a placid, undisturbed condition would be: besides which, some dogs there are of that irritable or angry temperament, that such an annoyance as a muzzle in hot weather must be, would be likely, if not actually to produce rabies, to occasion some paroxysm of excitement so like it as to be, by the common run of people, mistaken for it, and so not only entail death upon an animal not mad, but the leaving of an impression behind him of having “run mad,” followed by all its fearful consequences, when, in point of fact, the madness consisted in the mistake made by his master.

Altogether, take what view of the matter we will, we cannot, we must confess, see any advantages derivable from the muzzle; while, in more ways than one we can imagine mischief from it. If we are to legislate with any show of reason on such misinterpreted matters as “mad dogs” come into the category of, we ought to take care to make ourselves well acquainted with the origin and nature of the evil we are taking measures about avoiding or remedying. Public

opinion must be guided by medical opinion, and medical opinion must be founded upon broad bases, and safe, or at all events plausible, deductions. Until we have made up our minds what rabies is, and how it is produced, we are no more in a situation to frame laws thereon than we are to regulate influenza or any other pestilent visitor of which we really know so little, notwithstanding we talk about them as though they were familiar acquaintances.

MR. GAVIN asks us—"Of all the different methods of castration, which do we prefer?" Twenty years ago this question might have been answered at once, without hesitation; since that, new operations, or operations new to us, have started up among us, leaving it matter of some hesitation, as facts stand at present, which we ought to prefer. The old *actual cautery* still stands its ground with "gelders" in the country; but then their subjects are so young, so unstabled, and consequently so little liable to take harm from operation, that it is not matter of any very great deal of import what *modus operandi* they are made to undergo. The operation by ligature, as practised in the human subject, we learnt from Coleman, and have always ourselves, (though acknowledgedly without fair trial of it,) held to be the most objectionable mode of procedure; and yet M. Macé, a French V. S.—whose translated paper on the subject we unfortunately lost a few days ago out of our pocket—speaks strongly in favour of it. We have never, in our own practice, lost a horse from the use of the cautery; though we have been of opinion, since we employed the clams, that *they* were to be preferred to the cautery, from their exciting less inflammation, and apparently altogether annoying or inconveniencing the animal less. We have ever entertained a favorable opinion of the twisting operation as performed by the *torsion* forceps, but have no experience of our own to speak from. As matters stand, therefore, we practice the operation with the wooden clams, *à couvert* or *à découvert*, according to circumstances.

Mr. Gavin likewise asks us, "to what we attribute the

supervention of tetanus from castration ? ” Hurtrell d’Arboval informs us that, at a remount dépôt for cavalry, established at Bec (*Département de l’Eure*), twenty-four horses were castrated on the same day, and afterwards were made, four times a day, to take a cold bath in water derived from an eminently cold spring ; and that the consequences were, that sixteen out of the twenty-four died of locked jaw ; and that the Americans, who make use of the actual cautery in castration, produce tetanus so frequently in their castrated horses, that a gelding, safely over his troubles, is worth double the price of an entire horse. In India, tetanus after castration appears by no means infrequent ; whereas in our country it is so rare a sequel that nobody hardly thinks about it. Should Mr. Hurford not have embarked for Madras by the time these observations have passed the publishers’ hands, we have little doubt but that we shall hear once more from him on the subject. His pen is “the pen of a ready writer ;” and he has—what we most earnestly wish more members of our brotherhood would show—a *love for his profession*, displayed in the interest he takes in the promotion of the science of it. Were we all Hurfords, to what an extent would the pages of “THE VETERINARIAN” monthly run over with copy for the printer ! Apologising for this digression, Percivall says*—“Tetanus may ensue either before or after the period of suppuration : arising, probably, from the compression (of the clams) upon the nerve being insufficient to annihilate sensation. Certain irritable horses are most liable ; and the disease has been observed to occur oftener in summer than in winter. In both cases, however, the cause may be the same. Tetanus may result from a current of cold air (or from cold water) interrupting the suppurative process, and occasioning metastasis. An obvious indication of cure (in such a case as this) will be to re-establish suppuration.” In Mr. Gavin’s case, to be found at page 429 of our Journal, tetanus appears to have resulted from the heat of the weather, which we opine was about that time (the first week of the present July) *excessive*.

* Hippopathology, vol. ii, p. 426.

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PHTHISIS PULMONALIS.

By WILLIAM GAVIN, M.R.C.V.S., Malton, York.

THE subject, from which the tumour I sent you was taken, was a cow, three years old, very emaciated, and in calf. I saw her first on the 17th of May, when, in addition to the emaciation, she presented a tympanitic abdomen, an arched spine, bent to the left side, hurried breathing, rather oppressed; had been purchased two days before, and kept all the winter in a straw-yard, which was stated to be the cause of the poor condition. I pronounced the animal unwell; but, as the heat (which was great) and the flies might account for the symptoms, if only temporary, I ordered her to be "taken up," and looked to. I was requested to see her on the 11th of June; she had calved a very small calf two days before, and presented the same appearance as when I first saw her, with a good deal of fever, consequent on parturition. The most urgent symptom was the distension of the paunch, which had never been absent from my first seeing her, and was now, if anything, increased. To relieve it, I had a trocar inserted into the stomach, and left there. The bowels were very irritable. 23d. A good deal better, as far as eating, milking, &c., is concerned; but it is impossible to remove the trocar, for five minutes, without having her instantly hoven; the back is kept in the same position as at first, but not bent so much to the left side. July 17th. Increased emaciation, no milk, fæces still liquid, the spine and paunch in the same state, eats well. 24th. Died last night. Since the previous state, the trocar has not been inserted: ate well to the last. She coughed *extremely* seldom during the whole period of her illness.

Post-mortem.—The abdominal cavity contained more than a normal quantity of fluid, of a dark greenish-yellow colour; the paunch was full of grass, and perfectly healthy, as likewise were the other stomachs, and small and large intestines; the liver congested and very dark-coloured, but without any

organic disease ; gall bladder healthy ; kidneys contained a little puriform matter, *otherwise healthy*, nowhere very pale. Peritoneum loaded with albuminous deposition ; in one of its folds on the right side, near the external ribs was a small tumour full of pus.

The thorax contained an increased amount of serum. A tumour (the one I have sent you), containing about a quart of very liquid pus, occupied the superior mediastinum, immediately above and anterior to the heart. You will be able to estimate the quantity of fluid the tumour would contain. The thick white deposition in the inside, mechanically admixed with the thicker portions of the pus, I presume is chalk. It was very abundant, and some portion of it was lost ; but the majority of the sediment coats the inside of the tumour. The gritty feel is very apparent, on feeling a portion of the pus between two fingers. Another, of about the same size and of the same character, occupied the normal situation of the anterior portion of the right lung. Different portions of the lungs, but principally the anterior, presented condensation, *with a great deposition of calcareous matter in their substance*, without having become broken up, rendering the thoracic viscera adherent, to a great extent, to the anterior portion of the sternum and first rib. The solid matter weighed $11\frac{1}{2}$ lbs. ; and the escaped pus, Mr. Barker, M.R.C.V.S., who assisted me in making the examination, estimated at about 5 lbs. I think with him as to the probable weight.

The lining membrane of the *left* side of the heart, along with its valves, was coated with gritty matter, the *right side*, *with its valves, being free*. The serous membranes of the great arteries were healthy also.

The brain presented a little frothy fluid on its surface. Its internal and external membranes were pale, but free from all gritty deposit. The fluid in the ventricles, more than normal, partook of the same character as that in the chest and abdomen, as did likewise a considerable quantity which escaped out of the spinal canal.

Remarks.—The interesting features in the case seem to be, the presence of so much thoracic disease, with little or no cough, (I saw the patient frequently, and never heard her cough, and the owner said, “only very seldom,”) and the situation of the gritty deposit, in preference to the liver, kidneys, &c. The passage and consequent oxygenation of the blood, through the lungs, must have played some part in this singularity of choice. There was always great dulness on percussion of

the right side, and preternatural resonance of the other side, depending on the distended stomach, which distension was entirely symptomatic. The respiratory murmur was audible in the right lung further back.

A dead sound on percussing a portion of lung will warrant us saying, there is something there that ought not to be ; but no more. A case occurred in one of the London hospitals, of a man who all agreed in saying had a hepatised lung. He died ; the hepatised lung was a very healthy one, but that side of the chest was completely filled by effused coagula.

I expected to find some organic disease of the liver in this case, but there was none. Dr. Knox (late Veterinary Examiner), while at Chelsea Hospital, examined from forty to eighty bodies of persons, supposed to be labouring under hepatitis or hepatic dysentery, and found organic disease of the liver in two only.

THE TUMOUR EXAMINED BY THE EDITOR.

It seemed, at first sight, before the particulars of the case producing it were received, to be the urinary bladder. It appeared to have a lining of a mucous coat, which was uniformly covered with a thick coating (in some places to the extent of a quarter of an inch through) of pale, ochre-yellow, clotted matter, of the consistence of thick cream, which admitted everywhere of being readily scraped off with the handle of the scalpel ; leaving bare, when scraped off, the lining membrane, which, in some places, was intensely reddened ; though, in others, it was shining and transparent : everywhere it presented a sort of callous or cartilaginous substratum, which firmly and intimately united it with the outer walls. These consisted of an internal covering of pleura, underneath which was a gelatinous tunic, in every part densely beset with yellowish-white deposits, looking upon the excised surface of it, in point of magnitude at least, like so many millet seeds, which, when dissected out and rubbed between the finger and thumb, proved to be *calcareous* in their composition. These earthy deposits pervaded every part of the transformed muscular coat, though they were found to be more numerous at the part which looked to us like the *neck* of the tumour (supposing it to have been a bladder), than at other parts. This newly-formed gelatinous substance had grown to an enormous degree, especially at what might be called the *fundus* and *neck* of the tumour : at the former it measured one inch in thickness ; while at

the latter it was three-quarters of an inch. The colour in general was that of a pale, patchy lake-red; but at the neck it was a darker red, where in one place it had grown to the extraordinary thickness of $1\frac{1}{4}$ inch through, and contained within its secreting cavity, a dingy-looking, thin, purulent matter. The tumour weighed, in its empty condition, 2 lbs. 13 oz. Altogether it was an extraordinary specimen of morbid growth to be found in the situation in which it was.

VETERINARY JURISPRUDENCE IN SCOTLAND.

[Continued from page 216.]

IN bringing this subject again under the notice of the veterinary public, it will be well to begin with the following:

Extracts from proof for Pursuer.—In cause ANTHONY A. SMITH v. JAS. RAINNIE, Sheriff's Court, Aberdeen, 1850.

Robert Middleton, a flesher, purchased the cow for the pursuer. He saw nothing wrong about her at that time, except that she was lean, which is a fault in a cow when too near the calving. Two or three weeks after the purchase, he saw the cow in pursuer's byre, she was then lean, and not so healthy looking as when he bought her.

George Falconer was employed by the purchaser to bring the cow to his premises, which he did. He states that the cow was brought safely to pursuer's byre, although she appeared to be somewhat fatigued. He describes her as a strong lean animal, and quite out of condition.

William Lowe saw the cow immediately after the purchase. She was lean, very lean to be a cow in calf. He was present when the cow calved. The calf died a few days after birth. He saw the cow, perhaps, once every three days. For six weeks she was apparently in good health, but still continued lean. Then her appetite failed her, and she got thinner and thinner every day. He saw good food given to the cow, which was calculated to fatten her; but although she appeared to revive now and then, there was a visible loss of appetite, and some difficulty in breathing, as if the cow's lungs were affected. The pursuer then began to treat the cow with medicine, but continued her food as before; he assisted the pursuer in this, and the medicines were given daily with gruel, but without effect. Latterly she got porter to drink, and some weeks before she died it was given daily.

At that time her belly and chest began to swell from the udder forwards. He saw the pursuer lance the swollen parts, and water flowed from them. He assisted the pursuer to foment the swellings. He saw and assisted the pursuer to take out the cow's heart after death, and was present when it and the lump attached to it were weighed. Together they weighed thirty-three pounds; and though he knows a healthy heart, having seen many taken from the carcase, he never saw one having a similar excrescence.

Mary Cobbin, the pursuer's domestic servant, saw the cow in March (three months after the purchase); she fed the cow daily. The cow did not eat well. The witness gave her turnips, boiled and raw, and bran and draff, and plotted (or warmed) hay. She saw medicines given to the cow with gruel, and a bottle of porter daily. The cow was swollen about the chest when she entered pursuer's service. She saw the swollen parts lanced by pursuer, and water coming from them, the parts were afterwards bathed in warm water. The cow did not give much milk when she saw her, and gave less and less, according as she was eating. She saw the heart and great lumps of matter surrounding it, when brought to the byre from the tan yard, opposite where the cow had been dissected.

James Henderson, a tanner, saw the cow before she died. She was lean and swollen about the breast. He saw the pursuer dissect the cow, and assisted him in taking out the heart and a large lump of stuff along with it. Both were weighed in his presence, producing thirty-three pounds. He took them to the pursuer's byre.

Joseph Skea, Veterinary Surgeon, Aberdeen, obtained his diploma from the Veterinary College, Edinburgh, in 1843; was called, along with Cuming of Ellon, to examine the heart. They dissected it, and found a large abscess on one side. The heart itself was apparently healthy, but the abscess was very large, and had the appearance of a bag full of fluid matter, with some portions of it curdled, and of a thicker consistency than others. This bag was on the outside of the pericardium and attached to it. The covering of the bag was no part of the structure of a healthy animal, and had been formed adventitiously by the inflammatory action of some irritating cause. The abscess must have existed for a long time, and he holds it to be a physical impossibility that it could have been formed within four months. Believes it would have been difficult to detect such an abscess in a living animal who was eating its meat. The symptoms he would expect to find in a cow with such an abscess would

be weakness in the pulsation, and a general falling off in the animal. The disease is not a common one; the treatment he would prescribe in such a case, would be to give nutritious and strengthening food, and tonic medicines or stimulants. If dropsical swellings appeared he would apply the lancet. The weight of a natural heart varies from four to six pounds. The abscess, and the action of it, were quite sufficient to account for the cow's death. In such a case there can be no direct treatment or immediate cure for the disease, and all that can be done is to strengthen the animal's system.

M. A. Cuming, Veterinary Surgeon, Ellon, Member of the Royal Veterinary College, London, got his diploma in 1846. Was present along with Skea at the dissection. He found the heart to be healthy as regards the muscular structure. To the pericardium there was attached, on its right side, a large cyst or abscess, which on being opened, was found to be full of pus, partly fluid and partly concrete. The walls of the cyst consisted of adventitious organised membrane, about half an inch in thickness, and containing but few blood-vessels. Judging from the quantity of matter in the cyst, the extent and thickness of its walls, its being situated exterior to the pericardium, and the necessarily slow growth of such collections, he is of opinion that the abscess must have been in progress for a long course of time,—for at least one or two years. The symptoms he would expect to find, where such an abscess was present, would be gradual loss of condition and decline of the general health, arising from the continued and increasing pressure of so much foreign matter upon the heart. This would produce secondary derangement both of the nervous and digestive systems, and ultimately, though gradually, a set of conditions incompatible with the continuance of life. He had no doubt but that the abscess was the cause of the cow's death, and that it was in existence and of large size six months previous to that event. The disease is very uncommon, and he thinks could not be detected in a living cow, which was apparently healthy and eating her meat. The treatment he would recommend for an animal in whom he had seen the symptoms described, would be of a tonic and stimulating character. If dropsical swellings appeared he would puncture them. No treatment he thinks could have saved the life of that cow.

It is customary to consider the note appended to the judgment of a civil law cause, as something of the same kind with the calm, deliberative statement of a judge summing up a case to a jury, pointing out the strong and weak parts of the evidence, and balancing the "pros" and "cons" as they seem

to favour the one side or the other. If this be a correct view of what such a note should be, let us compare with it the note appended by Sheriff Davidson to his decision of the case of *Smith v. Rainnie*, and founded on the foregoing evidence, and it will be seen in what measure it deserves the character. We will not speak disparagingly of those who have the onerous duty of administering the laws. With the best possible intentions, they are often misled by the form in which a case may be represented to them, or from personal ignorance of the subject to be decided upon, and hence deserve a measure of support even when their decisions do not fully satisfy. But when a judge overlooks so far as even to misstate well attested facts, it is no longer charitable forbearance, but a plain abnegation of such right to remain passive. Far be it from us to apply these remarks to the judge whose decision we are about to canvass, unless it appear that his own words, compared with the written evidence before him, justify the conclusion. If the cap fit, who is to blame?

Note by Sheriff DAVIDSON in the cause SMITH v. RAINNIE.

The pursuer has not proved the cause of death. Instead of intimating the cow's death to the defender, and requesting his presence at a dissection of the body; and even instead of sending for competent persons to make the dissection, who could afterwards be examined as witnesses, he chose to perform the operation himself, and alone. The farriers who examined the heart and abscess never saw the body, and therefore there is no proof that that abscess was really the cause of death. Thus the pursuer has failed to establish one of the main facts libelled. But supposing the abscess was the cause of death, has the pursuer proved that this abscess was in existence and latent at the time of the sale.

The pursuer's case has derived considerable aid from the defender not only leading no proof himself, but even absenting himself during the pursuer's proof; and not cross-examining his witnesses, for which there was ample scope. And so it may be said that the evidence adduced by the pursuer stands uncontradicted; still the defender denies the libel, and it is incumbent on the pursuer to make out his case.

The Sheriff, on a careful consideration of the proof, has come to be of opinion that the pursuer has not done so in a satisfactory manner.

When the animal was bought on the 16th of December, 1848, it was apparently in good health. Its leanness was no proof

of disease. It may have been constitutionally lean. It was bought by experienced persons, a cattle driver and the pursuer himself, who is a veterinary surgeon. It stood the journey to Aberdeen well, there were no symptoms of difficulty of breathing then. It calved sometime afterwards easily, and made a good recovery. It continued apparently well, for at least six weeks after calving, and then, for the first time, its appetite began to fail, and symptoms of bad health appeared. The animal was doctored by the pursuer himself. It is said there was some difficulty in breathing, and there was a swelling in the belly and chest, which was lanced several times by the pursuer; and after treatment by the pursuer, death ensued about the 10th day of April.

The evidence of the alleged fact, that the abscess, said to have been for the first time discovered after death, was in existence at the time of the sale, consists of the opinions of the two farriers selected by the pursuer, without any intimation to the defender. They saw on the day, or the second day after the cow's death, what they were told was the heart and abscess taken out of the cow's body. These two persons are not of great experience; one of them has practised only since 1846. They say, the disease is a very uncommon one. Neither of them say they ever saw it before. Skea says, the abscess may have existed for a year, or may be less. Cuming says, for at least one or two years. But the grounds of their knowledge or opinions are not stated. No one sees the abscess who can form any opinion about its age or nature, but these two men chosen by the pursuer. It was unquestionably the duty of the pursuer, if he meant to go against the defender, to give him notice that the body was to be dissected and examined, and at all events to give him an opportunity of seeing the heart and abscess.

It was impossible for the defender to call witnesses as to the exact state and character of the disease, when neither he nor any one for him ever saw the diseased parts, and when he was never told there was anything to be seen.

Now all that the Sheriff need say as to this evidence is, that it is not satisfactory to his mind, looking at all the circumstances.

But, further, if it were thoroughly proved, that the abscess was in existence at the time of the sale, is it proved that the disease was then latent? If it was of great size, was it not then visible, and ought it not then to have been seen? And was it not seen, particularly by a person like the pursuer, who is a veterinary surgeon? Now, as to this, the case is a blank. The two farriers are asked a question which touches the point, but they do not give a satisfactory answer.—J. D.

It is difficult, at first sight, to make out, from the above note, what the precise grounds of the sheriff's decision are. It reminds us of a story, we have seen somewhere, of an Irishman defending himself in Court for having cracked his neighbour's kettle :—the defence was, “first, that the kettle was cracked when borrowed; second, that it was whole when returned; and third, that he never had the kettle.” How like this is the sheriff's three pleas for the defender. Let any one look carefully at his note, and see. First he argues, that the cow did not die of the cause of death, sworn to by the veterinary evidence; second, that if she died, that cause was not in existence at the time of sale; and third, if it was, that it was not latent (or hidden), but of large size, and visible to the purchaser. Inconsistency, however, is not the evil most to be complained of. Justice demands, that in a note, designed to explain the reasons upon which a judgment is founded, the facts of the case should be clearly stated. How far this is done, our object is now to show: first, in regard to the general merits of the case; and second, in special regard to the veterinary evidence.

On looking over the sheriff's note, the first thing that attracts attention is the prominence given to Smith's not having informed Rainnie of the cow's death and proposed dissection. This is four times alluded to, and made a principle ground for assoilzying the defender; yet the fact was simply the reverse of what the sheriff states it to be, and is so granted by the defender himself, in his answer to the statement of the pursuer. The following extracts from the sheriff's note, and from the statements in the process, which the sheriff says, he has “considered,” will show this more clearly:

Extracts from Sheriff's Note.

1. “Instead of intimating the cow's death to the defender, and requesting his presence at a dissection of the body,” &c.

2. “The evidence of the alleged fact . . . consists of the opinion of the two farriers, selected by the pursuer without any intimation to the defender,” &c.

3. “It was unquestionably the duty of the pursuer, if he meant to go against the defender, to

Extract from Statements in Summons of Pursuer, and Answers by Defender.

STATEMENT 5.

“That on the twelfth day of the last-mentioned month (April), the pursuer, having previously intimated to the defender the death of the said cow, and his intention of recovering re-payment of said price, on the ground of her having been diseased when sold,” &c.

give him notice that the body was to be dissected and examined, and, at all events, to give him an opportunity of seeing the heart and abscess," &c.

4. "It was impossible for the defender to call witnesses as to the exact state and character of the disease, when neither he nor any one for him ever saw the diseased parts, and when he was never told there was anything to be seen," &c.

ANSWER by Defender.

2. "Admits that, on or about the eleventh or twelfth of April, 1849, the defender received intimation to the effect here mentioned," &c.

When such is the way a judge can construe matters of fact, how are we to expect him to treat points of law? That the pursuer intimated to the defender the cow's death, its cause, and his consequent intentions, immediately on discovering the existence of old-standing disease, and also laid aside the whole of the diseased part for proper inspection, no one ever thought of doubting, till the sheriff imagined the reverse, as a plea to found his decision on. Even the defender himself, as may be seen by the above extract from his answers, allows that he received due intimation, otherwise the pursuer could have easily proved the fact by independent testimony. If we strip the Sheriff's note of the force which it derives from this assumed informality of Smith's proceedings, the only other point worth noticing (except what belongs to the veterinary part of the evidence) is the attempt to throw doubt on the fact, that the diseased parts, examined by the veterinary surgeons, belonged to the cow bought from the defender, and all along referred to. The Sheriff says, "they saw what they were told was," &c., (vide Sheriff's note,) as if upon this simple telling, the force of their evidence in any way depended. But, by referring to the abstract of the evidence which we have given, the most complete identity will be found established between the parts examined by the veterinary surgeons and the parts taken out of the cow, not as the Sheriff says, "by the pursuer himself, and alone," but in the presence, and with the aid of three other individuals, professionally accustomed to sights of the kind, and to all of whom the immense mass of diseased substance, adhering to the heart, was at once obvious on the chest being opened. We are not skilled in points of law; but, if memory does not deceive us, we have heard it stated, upon authority, to the effect, that everything was open to doubt in regard to any

particular case that was not specially brought out in the evidence. The decision of the case, *Smith v. Rainnie*, introduces a different rule, (whether right or wrong, we do not inquire,) namely, that everything is to be doubted that is stated in evidence, and everything believed that is asserted without proof. It is, therefore, of consequence to be known, for the benefit of all who may find themselves in the disagreeable position of having sold their neighbour an unsound instead of a sound animal, that they have only to absent themselves from the examination of the unsoundness, when called to see it, and to deny; and they will be assoilized from the consequences.

With regard to the treatment given by the Sheriff of Aberdeen to veterinary witnesses, as instanced in the case of *Smith v. Rainnie*, every member of the profession has grievous cause of complaint. Why call us, and examine us at all, if our sworn and uncontradicted testimony is not to be received? In no other profession would such treatment be submitted to, unless the honesty of the parties examined could be impeached, or their knowledge doubted. Yet the poor veterinarian must submit to be sneered at by a man so palpably ignorant of all that relates to the subject at issue, as to speak of an enlargement attached to the right side of the heart of a cow, and consequently lying between the two anterior lobes of the lungs, being seen outside.

The Sheriff, when determined to swamp the veterinary testimony in one lump, might, at least, have refrained from misstating any particular portion of it; but even this it seems impossible for him to do: witness the following extracts from this note, and from the evidence before him in process:

After speaking in his note of the veterinary evidence regarding the length of time the abscess had been in existence, the Sheriff says, "But the grounds of their knowledge or opinions are not stated," &c.

A reference to the abstract of evidence which we have given above, will show, in regard to one of the opinions at least, the following:—"Judging from the quantity of matter in the cyst, the extent and thickness of its walls, its being situated exterior to the pericardium, and the necessary slow growth of such collections, I am of opinion," &c.

Here are at least four reasons for the opinion given, and reasons, too, based on a knowledge of the nature of such collections as the one in question. To the mind of the physiologist they suggest such ideas as the following:—First, "the

quantity of matter," nearly a quarter of a hundredweight of pus, every globule of which was produced by a process of secretion requiring a definite time for its accomplishment. Second, "the extent and thickness of the walls of the cyst," a bag capable of containing the quantity of matter stated above, and half an inch in thickness. Third, "its being situated exterior to the pericardium," the matter was not contained in any of the natural cavities or structures of the body, but in an adventitious or diseased formation of independent growth; and, as previously stated in the evidence "of low organisation," that is, containing few blood-vessels. And, Fourth, "the necessarily slow growth of such collections," "necessarily slow," because every such abnormal collection must either have been in existence at the birth of the animal, or begun some time after; and, however large a growth, must have begun at a mere point or speck, its wall a pellicle in thinness, and gone on increasing in size by a simple extension of the capacity of the bag, produced by the pressure of the contained matter; and that pressure again gradually increasing by the secretion of fresh pus from the internal wall of the cyst, but both processes limited in activity and rendered slow by the comparative deficiency of blood-vessels in the structure, affording only a limited quantity of blood for carrying on the double processes of secreting the contained matter, and increasing the size of its envelope. Such were the grounds upon which it appears the veterinary opinions were founded as to the age of the collection in question. They seem to us to agree with the ideas of the best physiologist of the day, but here we may be wrong; and the Sheriff was at full liberty to doubt, both if they were in accordance with science, and although they were, if that science was correct; but common candour and justice will hardly allow that he was entitled to set them down as no ground of opinion or knowledge at all.

The Sheriff says that the cause of the pursuer derived additional strength from the defender's not cross-examining his witnesses, for which he remarks, "there was ample room." But surely the Sheriff knows that testimony may be strengthened as well as weakened by an opposing cross-examination, which is like the fiery trial, from which the pure metal of truth and knowledge comes out unblemished, while the dross of falsehood and ignorance is consumed and disappears. Seeing that there was two alternatives, and that the evidence might have been improved instead of damaged by cross-examination, it was hardly fair of the Sheriff to adopt the latter view without stating why. He might at least have

condescended to point out wherein the fallacy of the evidence he alludes to consisted. This he does in regard to one point in a rather ambiguous manner. In his concluding sentence, speaking about the disease being visible at the time of sale, he says, "Now as to this the case is a blank. The two farriers are asked a question which touches the point, but they do not give a satisfactory answer." On referring to the evidence of the "two farriers," as the Sheriff learnedly calls them, we find the following question, which is likely what he refers to, asked, "If such an abscess could have been detected in a cow which was apparently healthy and eating her food." The one depones, "It would have been very difficult to do it." The other, "I do not think it." What plainer statement could have been given than this; that according to the knowledge of these individuals the disease could not have been discovered? Perhaps the Sheriff would have liked a positive "it could not;" but such, however satisfactory it might be for a judge to have it to direct a decision by, is not in many points as yet attainable in matters physiological.

We believe it would be difficult to find on record a case similar to the one we have been animadverting on, where the concurrent, unconcerted, and uncontradicted testimony of two independent witnesses touching matters specially within the sphere of their professions, is set aside without any cause being assigned except the Sheriff's idea of their want of experience, in other words, their incompetence. We willingly acquit the Sheriff of any wish to hurt the individuals in question (as it is likely neither of them is personally known to him), although the results of this misstatement of their evidence is well calculated to do so; but we cannot acquit him of an attempt, manifested throughout the entire tenor of his note, to run down their profession; an attempt equally uncalled for on the one part, and unbecoming on the other. What would be thought of the judge who, in a plain, proved, and uncontradicted case of murder, should direct the acquittal of the murderer because one of the doctors who had examined the body of the killed had only been a certain number of years in practice? It may be said that such would be a cause of much more serious importance: true, but ought not justice to be the same whatever is the relative importance of the cases at issue? And ought not men to be accounted honest and competent for their professions so long as they are not proved, or at least generally suspected, to be otherwise? The Sheriff of Aberdeen has ruled it differently; and as far as the value of this decision goes, we of the veterinary profession must submit to his gra-

tuitous insult; but we can, and do, and will most emphatically protest against his misquoting our statements, and then making his own gloss a pretext for our disparagement.

We have already disclaimed being skilled in points of law; but, in order that our readers may judge of the competence of Sheriff Davidson's decision, we quote the two following cases, as being those which, in their material points, bear the closest resemblance to the one under review of any we have met with in a rather extensive course of search on the subject.

The first is that of *Blackwood v. Wright*, 22d February, 1833. The facts of this case are as follows:—The pursuer (Blackwood), commissioned his friend Fergusson to buy from the defendant (Wright) the animal in question, which was at that time out of condition, but which Wright asserted was sound and healthy. Within a few days after the purchase it was observed that the horse could not get dung but in small quantities and with difficulty, that he did not feed well, and was not in such spirits as young horses generally are. About three weeks afterwards he was again unwell, but next day got better, and on the following day he again became ill, and two days after he died. He was attended while ill by a blacksmith, who bled him and gave him some laudanum and nitre, believing him to be affected with gripes, but having no conception of the true nature of his complaint; he also had a bottle of castor oil prescribed by another farrier, who had not at that time seen him. Soon after the death of the horse, a dissection of him took place in the presence of the two farriers, the pursuer, another individual, and some of the pursuer's servants. These parties were none of them qualified by education to give an opinion as to the scientific points of the ailment of the horse, but were accepted as witnesses on matters of fact. They described a growth being found in the lungs, and also that the guts were grown to the back.

On the trial, Professor Dick and Mr. Henderson, Veterinary Surgeon, Edinburgh, were examined, with a view to overthrow the evidence of the farriers, but without effect. And in a communication to '*THE VETERINARIAN*,' a short time afterwards, Professor Dick remarks that there seemed some reason to suppose that the farriers had mistaken the pancreas for a diseased tumour; at all events their account was not a very intelligent one: but the judges decided, I now think, in the only way they could, namely, that as the farriers swore to a matter of fact, that testimony was not to be overturned by the hypothesis of any one, whatever their experience or

observations might be, when they had not the opportunity of examining the parts themselves.

On this case, the following is the summing-up of the Lord Ordinary :--Having resumed consideration of the debate and advised the process, Finds it established by the proof, that the advocator (defendant), did not offer the horse in question for sale, but that the respondent (plaintiff), selected him, and sent his friend Fergusson to purchase said horse for him. Finds, that the advocator upheld the horse to be whole and sound ; and though not in high condition at the time, it was purchased as such on 21st November, 1829. Finds that the horse was delivered on the 23d to the respondent, and was worked moderately ; that the horse soon showed symptoms of being somewhat unwell, being out of spirits and occasionally uneasy, not feeding nor dunging well, and then got better ; that on Saturday, the 12th of December, the horse was again unwell, but next day got better ; that on Monday, the 14th, the horse again became ill ; that Goudie, a farrier, was called, and who administered medicines ; and, having become worse on Wednesday, Wright, another farrier was called, but the horse died on the same day. Finds, that although the veterinary surgeons gave it as their opinion that the horse was not very skilfully treated, and that more active medicines should have been tried, they do not say, that the better treatment would certainly have saved the horse. Finds that the horse was opened on the same day on which he died, and it is established by the testimony of the two farriers and of two other witnesses, that there was an internal growth of a hard substance in the intestines, and that this was the cause of the inflammation in the intestines, so far as there were such symptoms, but that acute inflammation was not the cause of the adhesion. Finds it stated, as the opinion of these persons, that this growth was the cause of the horse's death ; and that it must have been the growth of some months' duration—one of the witnesses says six months. Finds that both Dick and Henderson, the veterinary surgeons, considers the disease a very uncommon one, and which they profess not to understand from the description given : but they do not state that such a disease could not exist, and one of them admits that he has seen one instance of the kind. Finds, that these two witnesses, while they differ in opinion with the two farriers as to the cause of the death of the horse, differ also from each other as to the cause of the death, but finds that Dick depones that he would consider that a growth, such as was proved in this case, was caused by chronic inflammation, and

of considerable standing, although he cannot specify the time; and that a growth caused by acute inflammation would exhibit symptoms of inflammation on dissection. Finds that Henderson states, that a tumour of the consistency described would take two months, or at least six weeks, to form. Finds it thus established, that the disease of which the horse died, was contracted prior to the sale. *Finds it admitted, that next day the advocator was informed of the horse, and asked to come and inspect the intestines, which had been preserved for that purpose, which he declined. Finds, that till the post-mortem examination, it could not be ascertained that there had been unsoundness at the time of the sale, as all the symptoms might have existed, and the death might have proceeded from a supervening disease, subsequent to the sale; and, therefore, finds that there was no undue delay in intimating the claim under the warrandice, as it was done as soon as the latent defect was discovered on inspection, and, therefore, as soon as the respondent knew that he had right to go against the advocator.* Advocates the cause. Decerns for 30*l.*, as the price of the horse, with interest from the 16th of December, 1829, and till paid, together with the expenses as decerned for by the Sheriff.

The other case we shall mention is that of *Fisher v. Joyce*, as reported in 'THE VETERINARIAN,' vol. XIII, No. 146, Feb. 1840; tried before Mr. Justice Coleridge and a jury, the facts of which are:—The plaintiff, a horse-dealer, buys a horse of another dealer, keeps it a short time, and then sells it to Mr. Kent, a veterinary surgeon, residing at Bristol. Mr. Kent keeps the horse about three weeks, and likes it; he puts it to no kind of hard work; but, after the expiration of those three weeks, the horse becomes suddenly ill, and dies. Mr. Kent examines him, and finds the lungs very extensively hepatised and tuberculated: a portion of the lung had attained a perfectly scirrhus state. His experience in the diseases of horses tells him, that a disease of three weeks' standing could not have produced hepatisation and tubercles; nor could such lesions have been formed in the course of the three weeks that had elapsed since he purchased the horse. He comes to the conclusion that the animal had diseased lungs at the time of sale, and he writes to the seller, and demands a return of the purchase-money. It is sent to him. The horse-dealer then makes of his brother dealer the same demand; he, however, does not part with his money so readily; he refuses to refund; and this action is brought. The question then is—What time does it require to form these peculiar lesions in the respiratory apparatus of the horse? or could he, with hepatised and tuberculated lungs, perform the labour usually

required? Were the lungs sound when the horse passed from the hands of the first dealer into those of the second?

Without stopping to recapitulate the whole of the evidence in this case, we give the following, which contains all the important parts of the Judge's summing up.—'This is an action between two persons of the same trade, Mr. Fisher and Mr. Joyce: they are both horse-dealers; and the action is brought to recover upon a breach of the warranty of a horse. The question, therefore, which you will have to decide is, *whether or not the horse was sound at the time of purchase*. The plaintiff alleges that this contract was made on the faith of the warranty that the horse was sound; and the defendant, by the pleadings, takes upon himself to say, that the horse was sound. I just tell you what is the outline of the evidence, and then you will be enabled to see more clearly what it is which you have to decide.

In order to prove that it was a sound horse, the defendant traces his history, and calls a person, Holmes, who attended Dr. Blackinstone's horses; and he says that, whilst he knew him, the horse was well, excepting two days, when he had the strangles slightly. In 1838, in the month of September, he was sold to a Mr. Williams. We have no servant of Mr. Williams's before us, to give any account of the horse whilst in his possession; but we find that soon afterwards, in Nov. 1838, he passed into the possession of Mr. Cottrell, who is a horse-dealer, living near Birmingham. We are told that while in Cottrell's possession it was perfectly well, and taken care of; and that while it was at Rugeley fair it was not at all exposed. Joyce got possession of the horse in December, and keeps it till Bristol fair; and the two persons who have jointly the care of it, take upon themselves to say that it was perfectly sound, and in good condition; and that when sold to Fisher, on the 26th of February, there was nothing to induce a suspicion that it was in the slightest degree unsound. That, gentlemen, is the defendant's case.

Now, the case on the part of the plaintiff is this: He says that it is very true that there was nothing at all in the appearance of the horse to show that it was unsound. And here, gentlemen, I will remark, that you are not to believe the horse was so free from ailment as these men would make out; for you have it in evidence, that whilst at the Saracen's Head, the horse had a cough, and that it was pointed out by Fisher as being a nasty cough, which he did not like. Then their case goes on, that on the 26th of February, although it escaped the notice of Mr. Fisher, and afterwards of Mr. Kent, the horse had a chronic inflammation of the lungs;

that it had had acute inflammation, which had been imperfectly cured, and had subsided into chronic inflammation. We all know, gentlemen, that the lungs are full of air-vessels for the purposes of respiration, and the plaintiff says, that these cells had become disorganised; that they had been filled with deposited lymph; and that instead of being elastic, they had hardened, and had become in a state of disorganisation for the purposes for which they were created, and organised for another purpose, for which they were not required. It is said that blood-vessels had shot through them, and that they had become hardened like liver, and unfit for the ordinary purposes for which they were designed, and that this state may exist without being apparent; that the horse may have no cough; that he may keep fat, but that still he might not be in a state in which a person had a right to expect him to be. That, although he might do slow work, if taken care of, yet if he were used laboriously, or should take cold, acute inflammation would come on, and death, in all probability, speedily ensue.

Now, gentlemen, if you are satisfied that this state of disease existed on the 26th of February, then, undoubtedly, no matter what disease the horse died of, the warranty was broken. We find that, on the 9th of March, this horse passed into the possession of Mr. Kent, on trial. Now, he is a man who has had great experience as a veterinary surgeon, whose business it is to examine horses, to examine their soundness; and you would say, it is quite incredible that Mr. Kent, who would be very careful whilst getting his guinea or half-guinea for his certificate, would not be more than ordinarily careful, while buying a horse for which he was to pay 60%. The defendant says, that it is quite incredible that Kent should not have discovered this latent disease. These are the two cases.—Three witnesses are called: they do not profess to have any science, but merely speak to the treatment. One of them says, at the time he was sold he had a cough, and that it was pointed out as a nasty cough—that it did not excite much attention, the defendant merely observing, that he would give a warranty. He is then taken home by the other two, and they say that he, under their treatment, had two nitre balls and two mashes; and their statement is, that the horse did not get much better under their treatment,—for one of them says, “It did not appear to benefit the horse much;” which statement certainly does appear rather inconsistent with the other testimony, for it would appear, that Fisher had him under medical treatment more than we could judge from the plaintiff’s counsel or evidence. From these

persons it passed into the care of Mr. Kent's servant, and he says, the horse was only ill four days: there is some little discrepancy between his evidence and Mr. Kent's. This is all the evidence of persons who pretend to no science; and, as far as their testimony goes, we are unable to discover any cause of death.

But now we come to the evidence of the veterinary surgeons, who, except some evidence by Mr. Kent with reference to the treatment of the horse, speak merely to scientific points.

We take Mr. Kent's evidence first, and I will read to you what he says about the treatment of the horse. "On the 4th of April I rode him out about two and a half miles from home. On my way the horse began to cough, and coughed till he nearly tumbled down. I pulled him in and stood still, as I thought he would have fallen down, he coughed so very violently. I had not ridden him fast at all. I walked him the greater part of the way. I observed no cause for this cough. There was no cause in anything I had done that day. After I heard him cough, I walked him gently home, and gave him some medicine as soon as he returned. I gave a drachm of aloes, with some carbonate of ammonia and linseed meal. In my judgment that was the proper medicine to give. It is what I am in the habit of giving constantly. The next day, the 5th, I gave him some medicine again. I did not observe whether he coughed in the stable; I was there frequently, but did not hear him do so. On the 6th, I had him saddled to take me out again; but he was so out of spirits, and showed such languor, that I only rode him about two hundred yards at a walking pace, and brought him back again. I gave him medicine again on that day; and he had as good care and attention as any other horse of mine ever had. The next day, the 7th, he had another dose of medicine. I did not hear him cough either on that day or the 6th, when he was so low spirited. On the 8th, he was taken ill, and at noon refused his oats. He ate his morning feed, but his mid-day one he left in the manger. My groom informed me of it, and at four in the afternoon I went and saw the horse, and found him very ill. His pulse was 60 a minute; 20 a minute more than it ought to be. This showed fever; and I gave him a drachm of aloes, some foxglove, and some tartar emetic. The object of this was to lower his pulse. Towards the evening the pulse rose to 90, and he was bled between nine and ten o'clock that night. I am sure that he ought then to have been bled. He had been getting worse rapidly from four

o'clock till ten. I sat up with him myself till almost three o'clock the next morning, and was quite certain then that his lungs were diseased. His breathing was not very much disturbed. The horse was very ill; and it was quite plain to me that there was also some inflammation of the mucous membrane of the bowels. I sat up with him almost all night, but he was much worse in the morning. He had his medicine repeated, and warm water to drink, which, in my judgment, were the most proper remedies. He continued to grow worse, and died on the 12th, at about six o'clock in the morning. He was not bled again after the night of the 8th. I saw that the last bleeding had done him no good, and I did not repeat it. He continued to grow worse from the time he was first taken ill until he died. I saw him repeatedly during the 10th and 11th, at different times, from early in the morning till late at night, and medicines were administered in the usual way. I did not hear him cough at all."

You perceive that though he gave him medicine, he did not think he was seriously ill until the 8th; and from that I suppose the servant means to date his illness, beginning at the 8th and ending at the 12th. This, however, is all Mr. Kent's account of the mode in which the horse was treated, and we now come to the evidence of science. And, gentlemen, there is no doubt that upon points of science we have men of the very highest order coming, upon particular subjects, to different opinions, and yet all professing their opinions to be based on actual experiments. There is no doubt that the evidence of science is the most dangerous kind of evidence; and, undoubtedly, jurors are very much in the power of men of science. I do not know that I can illustrate this much better than by supposing that a thousand years ago a trial had taken place to ascertain whether the earth revolved round the sun, or the sun round the earth. We know very well that people would say we have the evidence of our senses,—of our eyes, and we see that the sun goes round us. They would not, consequently, believe the men of science; and yet we know, gentlemen, that they would have argued upon sound principles, which, although the people could not understand them, yet must be true. This is precisely the case with the evidence upon the opening of the body. *These gentlemen of science say, we saw a state of things which must have existed before the 26th of February.*

Gentlemen, you and I may not understand them,—we are not men of science, and therefore cannot expect to do so. What we have to do is to exercise our best judgment upon

the evidence which is brought before us. The scientific men are called, and they state that the right lobe of the lung and also a portion of the left, were disorganised for all useful purposes, that they had become, like liver, a close substance ; and then they reason on this fact, and say that it began before the sale ; and that it was caused by inflammation which had not been properly cured, and that it had fallen into a subacute state and deposited this matter,—that the irritation had gone off, and the horse appeared well. Certainly, gentlemen, I am only surprised that the appearance of the horse was not more inconsistent with its diseased state. I should have thought that it would have been so. I cannot say it may be so, *but gentlemen have sworn to certain facts, and there is no reason why we should disbelieve them.*

Then they say that this disease existed in a torpid, subacute state, and that the lungs were thereby more likely to become more diseased from other causes ; and that, by sympathy, inflammation of the bowels might be brought on. Here I will observe, *that, whether the horse died of inflammation of the lungs or of the bowels, as suggested by Mr. Kent, does not much matter.*

I do not know that I need take up more of your time. There are, of course, little differences in the testimony ; but the witnesses substantially agree as to the morbid state of the lungs existing before the 26th of February. *It will not be your province to say of which disease the horse died. The question you have to determine is whether or not the horse was sound on the 26th of February.* Verdict for the plaintiff for the amount claimed.

By reference to those portions of the above cases which we have put in italics, it will be seen that they afford not a shadow of precedent for the finding of the Sheriff of Aberdeen. In fact, that in every important point they contradict him. More upon the subject were supererogation.

WHAT IS THE BEST MODE OF CASTRATION ?

By T. HURFORD, M.R.C.V.S., 15th King's Hussars.

WHICH is the best mode of castration ? If you ask this question of five or six men, you will probably receive as many different answers. I have tried the actual cautery, the clams, the ligature and scraping ; and I prefer the last : it being simple, safe, and speedy.

You have, doubtless, tried it, and perhaps most of your readers have performed the operation. However, at the risk of telling a twice told tale, I will endeavour to describe *the mode of scraping*. You begin as for castration in the ordinary way. Free the testicle, and grasp it with the left hand; *divide* the *seminal* part of the cord, and, with a rough-edged knife *scrape* the *vascular* cord lengthways, until you scrape through it. Simple enough, and speedy too, since from first cut to last scrape takes rather less than twenty seconds. I have done it in sixteen, and safely, for I never knew a horse bleed more than I wanted, and you have a simple wound without any foreign substances to deal with. The horses stand quiet for three days, being merely rubbed down. On the third day, the coagulum is washed away, and the parts cleansed, and nothing more is required after than to continue to keep them clean. Tetanus is *not* a frequent sequel to castration; though I saw last month you had put a (?) after what I wrote: as to the time most likely for an attack, I have always found it to come on just as the wound has healed, no matter in *what* part of the body it may be. Those attacks arising from castration, generally manifest themselves from the fifteenth to the twentieth day; but I have seen them both earlier and later. As a rule, I do not castrate during the hot months, nor during the heavy rains. Wounds and ulcers generally take on an unhealthy action at those seasons, and particularly during rains. But I have operated in every month of the year.

Will Mr. Gavin excuse me, if I say, in any future cases of tetanus, "use *camphor*." I think he will find it one of the most useful medicines. He will, I venture to say, agree with me, that blisters are of no use in tetanus.

Allow me to make two corrections for you in p. 441: first line, it should be *Bursauttee*; second line, it should be *kumree*. I would not take this liberty, but that I do not know if Mr. Hodgson be in England or India. I hope I shall see an early paper from him. If he can give us a case of either of those, or of the cutaneous diseases, he will confer a great benefit.

EXPOSURE OF GLANDERED HORSES.

THE following trial for misdemeanour, consisting in having publicly exposed and sold a glandered horse, together with some remarks, and the disclosure of certain facts to which the said trial has given rise, with some few observations of

our own, bearing on the mode in which and the extent to which contagion may prove operative, will not be read without interest.

NISI PRIUS.—LEICESTER.

(*Before Mr. Justice Coleridge.*)

THE QUEEN v. HENSON.

Mr. White conducted the prosecution; Mr. Sergeant Miller appeared for the defendant.

Mr. White said, the defendant was charged with misdemeanour, in having, on the 1st day of June last, at Melton Mowbray, exposed a certain mare, diseased with glanders, in a certain street called Burton-end, in Melton Mowbray, to the danger of her Majesty's liege subjects. Another count in the indictment charged defendant with exposing the said mare in Whitsun fair, at Melton Mowbray, to the danger of divers horses and cattle. The first witness called, was

Henry Martin, Esq., of Colston Bassett, a magistrate of the county of Nottingham. He deposed that at the last Melton Whitsun fair, he went there to purchase a hack horse. He saw several horses in a string opposite the Noel's Arms. He bought a mare of a man who signed a warranty, giving his name as Henson. There was a man standing at the head of the horses, and Henson stood behind them. After he had bought the mare, he sent her up to where one of his tenants put up. In about a quarter of an hour after he heard something which led him to go to look at the mare. He found a swelling in the fleshy part of the nose. He sent for Mr. Brown, veterinary surgeon, who pronounced the mare to be glandered. Witness then sent for the defendant, and as he did not come he went to him, and told him the mare was glandered. Defendant said, "Glandered be d—d." Witness replied, he had the certificate of a veterinary surgeon in his pocket. He offered to show defendant the certificate, but he replied, "Veterinary surgeons be d—d." He gave him into the custody of a policeman, and took him before the magistrates. When they got to the steps of the magistrate's room, defendant said, "I think you and me could have settled this without all this fuss." He (witness) would not compromise it, but took him before the magistrates. Defendant was examined before the magistrates, and remanded. The magistrates on that day were Mr. Bingham and Mr. Hartopp. On the Friday, Mr. Bingham was the only magistrate. (By Mr. Sergeant Miller.) Defendant told him his name was James Henson, and that he lived at Loughborough. He had learned since that defendant's name was Henson,

and that he did occasionally live at Loughborough. The horses were tied to a chain, or something of that sort, on the causeway. He had one of them trotted out to look at it, before he bought it. He was not deficient in knowledge of horses. His friends sometimes availed themselves of his knowledge. Saw a little dry mucus about the nose, but no running. He said he thought it had had a cold. Defendant replied that it had had the strangles. He also said that he had bought it of some person at Sewstern. He heard him say before the magistrates, that he had bought it of George Harvey, of Sewstern. He found that there was such a man at Sewstern. The servant man was just leading the mare into the string when he first saw it. The man did not tell him that it was only just purchased. When Henson had sold him the mare, he said he had sold it with a warranty, and if it proved to be not sound he would take it back. He did not, when he first went to Henson to ask him to take the horse back, tell him he should prosecute him. Henson told him that he had only cleared a sovereign or half a sovereign by the deal. He had since sued Henson upon the warranty.

Thomas Wilson, grazier, of Broughton, deposed that he was at Melton Whitsun fair, and saw Mr. Martin apparently dealing for a mare. When Mr. Martin's back was turned he saw the servant man wipe the mare's nostrils with a cloth. He also saw him wipe her nose down with the sleeve of his coat. Did not think Henson could see that. The man appeared to be the servant, and acting under the orders of Henson. (By Mr. Sergeant Miller.) The man did not appear frightened when he rubbed the mare's nose.

James Christian, groom to Mr. Gilmour, deposed that he was fifty years of age, and had been a groom all his life. He was at Melton Whitsun fair, and saw Henson showing Mr. Martin a mare. A man was leading her up the lane. She appeared "a good sort," and he (witness) was anxious to see her action, but the man led her so slowly that he could not, and that excited his suspicion. He saw the man wipe the mare's nostrils with a piece of brown cloth, "and very slyly he done it." He considered she was glandered. Two men died of glanders some time ago. (By the Judge.) He did not see the men ill, but it was quite true.

Mr. White. Did you see it in the newspapers?

The Judge. That will *not* do.

(By Mr. Sergeant Miller.) A horse's nose would run when it had a cold. He did not know the difference between the "strangles" and "bastard strangles."

Mr. Brown, veterinary surgeon, of Melton, deposed that he went with Mr. Martin to look at a roan mare, on the

Whitsun fair day. It was tied in a paddock at the mash tub, to keep her out of the stable. He found her suffering from glanders. It was a clear and undoubted case of glanders. He had seen her on the 8th or 9th of April, at Stainsby, and she was glandered at that time. There were no appearances of recent stranglers, to a practised eye, on the 1st of June. Remembered two persons dying of glanders. It was a disputed point whether the disease was infectious, but he had no doubt it was contagious. (By Mr. Sergeant Miller.) He saw one of the men. That man had been inoculated. He did not know George Harvey.

Mr. Martin, re-called, deposed that the mare was kept until the Friday, and then shot.

The warranty was then put in and read.

Mr. Sergeant Miller addressed the jury. He said the question was not whether Mr. Henson sold an unsound horse, but whether he knowingly and wantonly exposed a diseased horse to the danger of her Majesty's liege subjects, and of other horses and cattle.

No witnesses were called for the defendant.

His Lordship, in summing up, said that the question turned upon whether the defendant knew that the mare was diseased. He confessed that he considered the evidence produced showed a very weak case for the prosecution. It was not proved that defendant had only purchased the mare that morning, but there was some evidence to that effect. He referred to the fact that Mr. Martin, who was a good judge of a horse, did not detect the disease himself; and also to the fact that Henson was having the mare put amongst other horses of his, which he thought he would hardly have done if he had known that it was glandered. There was no contradiction of the statement that he had bought the mare of George Harvey; but Mr. Martin admitted that he had ascertained that there was such a man. If he had been brought here, and had said that he did not sell the mare to Henson, it would have made the case more suspicious.

The jury consulted for a few minutes, and found the defendant guilty.—*Leicester Journal*, 30th July, 1852.

IMPORTANT ADDITIONAL FACTS, WITH REMARKS ON THE ABOVE TRIAL.

To the Editor of "The Veterinarian."

SIR,—On the 6th of April last I was requested by Mr. John Line to go and look at his team of horses, he having

previously lost one from glanders. Mr. Line is a considerable farmer, in good circumstances, and resides at Stainby in Lincolnshire. On my arrival, a roan filly was shown to me first, which, on examination, proved to be a very clear and decided case of *acute glanders*. I at once declined treating the case, and told the owner that, in my opinion, his safest and best way would be to destroy her at once. He was unwilling to act upon that advice, and asked me if nothing could be done for her. To which inquiry I replied, "If you have a grass field at a distance from home, and where there are no horses either of your own or other people's to come in contact with the filly, you may turn her out, and give her a feed of barley once a day, until you are fully satisfied that she will be of no further use." Up to this time the other horses were well. About six weeks afterwards, however, I was requested to go over to Stainby again; and on that occasion the glanders showed itself in a valuable cart-mare. It was a slight, but still a decided, case of that disease: the horse discharging from one nostril, which was ulcerated. Not seeing where the man's loss would end, I both felt and expressed myself sorry for him, and at the same time assured him that I knew of no medicine which would really cure the disease; therefore, under all consideration of his case, I believed that it would be the best for him to make up his mind to bear with the first loss, and destroy the two mares at once. He expressed great unwillingness to do that, and at length prevailed upon me to send him some medicine for the cart-mare. This was not done on my part with any view to arrest the progress of the disease, but merely to satisfy Mr. Line's desire of doing something. And when the medicine was sent, I pointed out, in writing, the danger to which the man who gave the balls would be exposed.

With so much precaution from a veterinary surgeon, we might reasonably suppose that no man who moves in a respectable station, and in good circumstances, would have shown such a degree of moral delinquency as to sell glandered horses for the express purpose of involving other persons in a similar or perhaps a more extensive loss than his own. Yet such appears to be the case with Mr. Line, who either sold to, or employed George Harvey, of Sewstern, (an adjoining parish to Stainby), to bring the two glandered mares to Melton, three days prior to the 1st of June, in order that they might be sold at the fair which was held on that day. G. Harvey and J. Henson belong to the low class of horse-dealers; and judging from this transaction, it appears that they are confederates in glandered-horse specula-

tions; otherwise the latter would have given the former into custody rather than have suffered himself to have been tried and convicted for the misdemeanour of selling a glandered horse. On the 4th of June, Mr. Henson's lawyer, offered to return Mr. Martin the purchase money provided that gentleman would not proceed any further against his client. But Mr. Martin refused to take the money on such terms; and at the same time assured the committing magistrate that he was prosecuting entirely on public grounds, with a view to put a stop to the frequent sales of glandered horses.

We are now aware that publicly exposing and selling a horse, knowing it to be glandered, is a misdemeanour; and that the offender may either be sent to prison, or permitted to be out on bail, and surrender to take his trial at the next general quarter-sessions or assizes; and, also, that the expense of the prosecution is not paid out of the county-rate, but falls upon the prosecutor, which circumstance will allow the majority of offenders of this description to escape punishment. If our legislative assemblies were aware how frequently glandered horses are sold in the different markets and fairs throughout England, and of the unheard of punishment for the offence, those members of parliament who represent the agricultural interest would feel assured that the laws relating to the offence of selling glandered horses are either too indefinite, or too expensive, to be fully carried out for the suppression of such a fraudulent and dangerous offence. In order to meet the exigency of the case, as well as for the more effectual suppression of the abominable traffic which is carried on in the sale of glandered horses, the law should invest the magistrates with the power of enforcing from the offender the return of the purchase-money to the complainant, and, at the same time, order the diseased animal to be destroyed; and, in default of the delinquent complying with this part of the statute, the magistrates should have the further power of inflicting such summary punishment as would be deemed commensurate with the dangerous nature of the offence.

As veterinarians, we are aware that the glanders is highly contagious, and that it may be likewise *infectious* to the horse species; also, that it has been communicated to the human subject by accidental inoculation; and that, in consequence, any person who has the care of such diseased animals might lose his life by coming in contact with glanderous matter. As the law deems such diseased animals a *nuisance*, and selling of them a *misdemeanour*, it behoves us, as members of an honorable profession, (noble in its nature,

which has for its object the alleviation of pain, and the salvation of the lives of domesticated animals,) earnestly to endeavour to suppress the fraudulent transactions in glandered horses, a work which has been so laudably commenced by Henry Martin, Esq., one of the magistrates for the county of Nottingham.

Since writing the above, I have been informed that several of my best employers are desirous of seeing my opinion in print on the sale of glandered horses; such being the case, you will oblige me by letting the above communication appear in the next number of 'THE VETERINARIAN.'

SAMUEL BROWN.

Melton Mowbray;
Aug. 7th, 1852.

SALE OF GLANDERED HORSES.

To the Editor of the 'Leicester Journal.'

SIR,—Some opinion may be formed of the grievous extent to which dealing in glandered horses is carried, from the fact that no less than six cases of horses so affected having been sold in markets and fairs *since* I caused James Henson to be apprehended, have come to my knowledge. There are gangs of low horse-dealers and swindlers in Loughborough and Nottingham, worse than those in Smithfield, who are never without such diseased animals. I am informed by an eminent veterinary surgeon, that there are more glandered horses at this moment in the country, than he ever knew in all his experience; and that he has had occasion to condemn a great many in the farmers' stables.

The unconscious possession of a glandered horse is destructive to property and dangerous to human life, and the inadvertent application of glandered matter to a wound or scratch on the person of a poor unsuspecting labourer, might cause a death as horrid as that from hydrophobia. The two cases of this at Melton Mowbray are well in the recollection of the public.

A heartless villain, who, for the sake of a few pounds, would jeopardise the life and property of another by selling him a glandered horse, deserves the gallows.

There are quite sufficient obstacles in the way of a prosecution by indictment for this offence, without additional annoyances. I am informed that my case at the late Leicester Assizes was the *first* on record; and if a prosecutor is to

meet with no more encouragement from a Court of Justice than I did, I may safely predict it will be the *last*.

The county is indebted to an upright and intelligent jury for a most just verdict. Doubtless it struck *them* that the obstinate refusal of Henson to take back, or even to see a horse he had warranted sound, but which was proved within half an hour to be otherwise, was *primâ facie* evidence of his dishonesty.

They did not fail to assign a *motive* for the "wiping" of its nostrils; and the fact of their having *always been wiped when my back was turned*, was too remarkable to be without its influence. Had Henson shown a readiness to take back the horse, and to go in pursuit of the man, George Harvey, of Sewstern, of whom *he said*—but it was *not proved*—he bought it, the policeman would have given him every assistance, and my co-operation would not have been wanting. No witnesses were called for the defence. Why was not George Harvey in attendance to prove the sale of it to Henson as a sound one? I did not know, until some days after, that Willows and Christian, who gave evidence for me, were in possession of the facts they stated.

I see little prospect from the trial, which I undertook at much inconvenience and very great personal annoyance, to say nothing of the expense, of any beneficial result to the public.

The summing up of the judge inspired a host of low horse dealers in court with so much confidence, that before he had concluded I was literally told that an action would be brought against me for false imprisonment! An alteration in the law is loudly called for, and earnestly desired by the whole country. If it were made felony to buy and sell glandered horses in markets and fairs, and lawful for magistrates to order them to be shot, there would not only be an end to the practice of dealing in them, but the disease itself would soon be extirpated.

Your obedient servant,

HENRY MARTIN.

Leicester Journal;
Aug. 6, 1852.

CONTAGIOUSNESS OF GLANDERS.

WITH the view of shedding light on the important question of the contagiousness of glanders, we would submit the following deductions from facts brought forth by our own experience.—ED. VET.

1. That farcy and glanders, which constitute the same disease, are propagable through the medium of stabling, and this we believe to be the more usual way in which the disease is communicated from horse to horse.

2. That infected stabling may harbour and retain the infection for months, or even years; and though by thoroughly cleansing and making use of certain disinfecting means, the contagion may probably be destroyed, it would not perhaps be wise to occupy such stables *immediately* after such supposed or alleged disinfection.

3. That the virus (or poison of glanders) may lie for months in a state of incubation in the horse's constitution, before the disease breaks out. We have had the most indubitable evidence of its lurking in one horse's system for the space of fifteen weeks.

4. That when a stud or stable of horses becomes contaminated, the disease often makes fearful ravages among them before it quits them; and it is only after a period of several months' exemption from all disease of the kind that a clean bill of health can be safely rendered.

ACUTE SUPPURATIVE DISEASE IN A COW.

By G. LEWIS, V.S., Monmouth.

ON the 6th instant, I was requested by Mr. Williams, of Red House Farm, near this town, to see a milking cow which had been ill for some days. Mr. Williams, a very intelligent man, who from long experience and observation has acquired a tolerable knowledge of the nature and treatment of many of the ordinary diseases of cattle, had, upon perceiving her "ailing," given some aperient medicine, which had acted upon the bowels, but had failed to be productive of the good effects he anticipated. There was considerable enlargement of the anterior and inferior portion of the

off shoulder, together with the dew-lap. The latter, which I scarified, afterwards became reduced to its natural size. The whole of these swellings had been kept fomented with hot water. There was some shivering present; the horns alternately hot and cold; the animal in great pain; scarcely any cough. Auscultation found the left lung healthy; but the lower portions of the right were fully congested. I ordered some febrifuge and sedative medicine, telling Mr. Williams that I did not *then* deem it prudent to bleed; though, should the animal evince more pain, and the breathing become quickened, I should abstract some blood.

August 8.—The animal coming to manifest the symptoms I had described, Mr. Williams bled her. She had now, however, become lame upon the off *hind leg*, and being unable to stand, he had placed her in slings. Abscesses had now formed upon the superior and inferior portions of the off shoulder, which upon evacuation, discharged purulent matter of a most intolerable odour. Upon applying the ear to the off side, I now detected fluid in the cavity of the chest. The *cavernous râle* was to be heard very distinctly. I now informed Mr. Williams that the case was hopeless; that I feared the same results had occurred internally as had externally, and desired to be apprised of her death, as I was desirous of examining her. On Thursday last I received a message to say that the cow was dead; that immediately before death took place, she had ejected large quantities of “blood and matter through the nostrils.” The next morning I made a post-mortem examination.

Autopsy.—Upon the skin being removed, two other abscesses presented themselves in the knee and fetlock joints of the same (off) fore leg; another was situated in the inferior portion of the *near* shoulder; there was a large abscess within the capsular ligament of the off hip-joint; the internal ligament was destroyed; the articulating surfaces of the femur and acetabulum were destroyed, and the bones had become carious. Upon removing the skull and dura mater, about 3iij of purulent matter escaped. Upon removing the sternum, by dividing the ribs low down, a considerable quantity of the same kind of matter escaped from between the right lung and pleura; and upon further examination, the lung was found to have contained a large abscess.

CASES BY THOMAS T. HUDSON, V.S., BLYTH, NOTTS.

To the Editor of 'The Veterinarian.'

DEAR SIR,—Having had several fatal cases of paralysis, of a peculiar nature, during this and former seasons, all of which have been equally fatal, I beg to hand you the symptoms of two which have come under my treatment in the present season. If you think them worthy of a place in your valuable and indispensable Journal, you would much oblige me by their insertion in the next Number.

Since several horses, both old and young in the neighbourhood, which have come under my observation, have fallen victims to the affliction, some within the short space of eight hours from their commencement, I have perused your valuable "Hippopathology," and find the symptoms correspond to no disease so much as that of *Idiopathic Paraplegia*; but what makes the cases more remarkable is, the difficulty in discovering the cause; they always occurring, in my practice, during very hot weather. Perhaps some practitioners who may have been more successful in such cases than I have hitherto been, and have had better opportunities of investigating the disease than myself, will throw a little light on the true nature of the affection in the ensuing Number of "THE VETERINARIAN." I beg leave also to state that *Mammitis* has been very prevalent in my neighbourhood during the summer months, never having had so many cases under my treatment in former years. The majority of cases were affected in one quarter, and owed their origin to the retention of the milk, causing an acid secretion to be given off from the mucous membrane of the lactiferous ducts, and breaking up the constituents of the milk.

The treatment I adopted was that recommended by Professor Simonds, in his Lectures last Session. I find the injection of the antacid solution into the reservoir a very useful adjunct, and I highly recommend its use in such cases, seeing that all my patients have recovered in a very short time, beyond my most sanguine expectations. Several cases which occurred in Drapes that had been grazing in meadow lands, and not frequently noticed, ran on to the suppurative form, and proved very troublesome; others which ran on to the chronic indurated stage succumbed to the administration of Iodine and Mercury internally, and the application to the glands of the Ung. Iodini. I have four

mares at the present time, the property of one gentleman, all suffering from the inflammatory stage of the disease, the whole gland being affected in them. Numerous flocks of lambing ewes have also been similarly attacked. One case of mammitis in a drake cow, which commenced last autumn and turned out very troublesome, and another of parturient apoplexy, you would much oblige me by inserting along with the others, should I not be encroaching too far upon the pages of your valuable Journal.

Believe me, dear Sir,

To remain yours truly,

THOMAS T. HUDSON, V.S.

Blyth, Notts;

Aug. 14th, 1852.

CASE I.—*Paralysis.*

The subject was a bay carriage mare, 9 years old, near 16 hands, and in good condition, the property of T. Walker, Esq., Danes Hill. She had been in the owner's possession about ten days only when first affected. Five days after purchase, in the act of being liberated from harness, she began kicking violently, being rather addicted to that habit; she was, notwithstanding, soon extricated from harness, and was turned into a white clover pasture, near home, where she seemed to remain perfectly healthy until the 29th, when she was first observed to go lame with her off fore leg. In a few hours afterwards she went so with her hind one of the same side. Afterwards she began to reel about, until at length she fell on the right side. I was requested to attend about 11 o'clock on Thursday evening.

On my arrival I found her lying upon her right side, unable to rise. Pulse 45; extremities cold; breathing natural; sensible to the prick of a pin on the lumbar muscles; dunging and urinating freely; and eating some green clover that had been given her. A small tent was erected around her; the extremities well hand-rubbed, and flannel bandages were applied to the legs. I emptied the rectum, and threw up a warm injection, and gave a common alterative ball, not having any cathartic medicine with me. I then had her packed up in a comfortable posture with straw, threw a rug over the body, and left her for the night.

Friday, 30th. Saw her at 9, A.M. Still down; made several attempts to rise, which proved ineffectual; pulse 60, and

strong; extremities warm; respiration a little disturbed; perspiration running from her. She was much annoyed by flies; the mucous membranes were injected; she was insensible to the prick of a pin on the right side of the loins; there was great heat of mouth and rectum; fæces were retained in the rectum without power to expel them; incontinence of urine, it dribbling away in one continued stream; tail depressed, without ability to raise it to dislodge the flies; refuses all food offered to her, but has excessive thirst. I had her removed home, the distance not being great; but not having a suitable truck at hand, two gates were procured, and placed one upon the other to add strength to the under surface, to which two pieces of planking were attached by means of chains, some straw being spread upon the top; the mare's legs were then secured by the hobbles. The gates being placed at her back she was rolled over on to them, then confined by a rope, and in this way dragged home by another horse with ease. I placed her in a large, cool box, with plenty of straw.

V. S. from jugular, ad cong. ij; gave Aloës Barb. ℥iij, with Ol. Crot. mxx, in ball; empty the rectum of its contents, which were found to be black, hardened, and coated with mucus; administer aloëtic injections; stimulate the back and loins with mustard and ammonia; give her water ad lib. After drinking, the belly became tympanitic, and she showed symptoms of acute abdominal pain, which, however, in a short time subsided. I ordered her to be turned frequently, and each time to be packed up again with clean straw.

31st. Still down and unable to rise; pulse 65; respirations about twelve per minute; mucous membranes highly injected, the Schneiderian membrane being of a purplish hue; insensible to the prick of a pin on the right lumbar region; slight twitchings of the muscles of the fore extremity; the lips pendulous, drawn a little to the near side; physic has not operated; incontinence of urine still present; the rectum contained a few hard black fæces coated with mucus streaked with coagulated blood; shows no symptoms of pain; has still a great desire for water, but will not eat. Had her back stimulated again with ammonia, and threw up warm aloëtic injections, gave her chilled water, and ordered her to be frequently turned.

August 1st. Found her in a dreadful state from struggling, the eyes being literally concealed from view by the infiltration of serum into the areolar tissue of the lids; and other prominent parts of the body were in a similar tumefied state.

The left fore leg had been struck in several places by the shoe of the corresponding hind limb, causing such an effusion of serum into the subcutaneous areolar tissue, that it measured in circumference twice that of the opposite limb. She now evinces very acute pain when pressure is applied to the lumbar and gluteal muscles, which are very flaccid, feeling more like fluid than solid muscle; pulse 70; mucous membranes of a purplish hue; respirations 16 per minute; bedewed with perspiration; thirst excessive; physic has not operated; urine still dribbling away; rectum contained no fæces; extremities warm; keeps making ineffectual attempts to rise, but has lost all power of the two right limbs. I abstracted blood to the amount of cong. j, which had a thick treacly appearance, and gave Al. Barb. $\mathfrak{z}\text{iv}$; Ol. Croc. $\mathfrak{m}\text{xx}$; also administered warm injections, and had her turned, and the abdomen well rubbed with dry straw.

2d. Found my patient much worse, although the physic had begun to operate; pulse 100 and oppressed; respirations twenty per minute; body bedewed with a cold perspiration; frequent tremors; and every symptom approaching speedy dissolution. Gave up all treatment except ordering her to be frequently turned. Died some time the following night.

I had not an opportunity of making a careful examination of the brain and spinal chord; but, for satisfaction to the owner, I examined the lumbar muscles and abdominal viscera, to ascertain if any lesions had taken place, in the act of kicking, that might add to the cause of death,—but found none. The common integument being stripped off, the muscles appeared almost of a black colour, all their vessels, as well as those of the skin, being distended with black coagulated blood. On opening the abdomen, no fluid escaped. The reflexions, both visceral and parietal, of the peritoneum, were of a natural hue, except the omentum, which was ruptured longitudinally, not forming any covering to the stomach. The entire length of the mucous membrane of the alimentary canal was in a state of inflammation. The kidneys appeared quite healthy; the bladder slightly inflamed, and it contained no urine, its sphincter and muscular coat being relaxed, and a substance, similar in colour and consistence to moistened pipeclay, adhered to its sides,—not of a calcareous nature, though what it was I cannot say. The liver was very much softened, and was pale. The right auricle of the heart was distended with a coagulum of black blood; the lungs were inflamed, which I should expect was the effects of lying. The psoæ muscles and (lumbar portion of) longissimus dorsi were very pale and flabby, having

more the appearance of young veal. The right fore extremity was in a sphacelatic state from shoulder to foot,

CASE II.—*Paralysis.*

A bay carting mare, 10 years old, of full habit, the property of Mr. Wm. Walker, Ranskill; a great, strong, useful animal; had been in his possession for the last six years, and had never experienced any serious illness, only being subject to swelled legs when not in constant work. She was attacked about 2, P.M., when in the waggon laden with hay. She began to show lameness first in her near fore leg; then, in a short time, in the corresponding hind limb; she then commenced "staggering," in the language of the attendant, who tried to get her home, "like a drunken man." The distance being great, however, he found this would be impossible to accomplish; so he with great difficulty got her back into the field. Here she propped herself up, and stood for a few hours; but they could not get her to shift her position; and when she did move she fell on her left side, where she lay until the following morning, which was Sunday, when I was requested to attend. I found similar symptoms to what I observed in the former case, with the exception of incontinence of urine. She was lying upon her left side; pulse 45; mucous membrane slightly injected; dung and urine voided naturally; appetite good; V. S. ad cong. j; gave Aloës Barb. ʒviij, Ol. Croc. mxxx; stimulated with mustard and ammonia. The distance being nearly three miles from Lound, and a very bad road and no help, I had her well packed up with hay on the spot: we did not attempt to get her home. Next day I found her much worse; pulse 70; refuses all food; but raises her head when water is brought near her; struggles very much, causing contusions and tumours, and abrasions of the skin in several parts of the body. I considered the case hopeless, the distance being so great from my residence, as well as from any house where warm water, &c., could be procured; and also on account of her own attendants, being very busy with their hay, not able to pay proper attention to her: taking all things into consideration, I recommended her to be destroyed, which the owner complied with.

CASE III.—*Scirrhus Udder.*

Patient, a drupe cow, of the short-horn breed, the property of Lord Viscount Galway, M.P., Serlby Hall, Notts.

Having been bought in for feeding, she was turned on to a meadow pasture. After being out a few weeks, she was observed to be unwell, and was in consequence brought home, and my attendance requested. I found that supuration had taken place in the mammary gland, though very deep. I thought it impossible to stay the suppurative process, so I ordered her to be fed on generous diet, and the glands rubbed with a stimulating liniment. In a few days the pus approached the surface of the gland, it growing daily more prominent and tense; the legs also swelled to an enormous size, and were very painful. I evacuated the contents of the abscess, which amounted to three pints of sanguineo-purulent matter, of an extremely fetid character. I had the wound syringed out with warm water, and kept open and clean, and I administered some aperient and diuretic medicine. She seemed to be going on in a favorable manner, when, in a few weeks, she was again attacked as before, and was treated similarly; and she again recovered. This, however, did not prove to be the last, for the old symptoms again began to make their appearance; and having cut her twice, and the disease again returning, the steward was rather dubious about having her cut again, he having had an ointment recommended to him by a gentleman, who said his shepherd had used it with great success: so he resolved to give it a trial. The ointment was regularly applied for three months. The abscess broke and discharged its contents, and soon afterwards smaller ones broke in various parts of the glands, they being now in a scirrhus indurated condition, and thrice their natural size: the animal also in an emaciated condition. His lordship, one day, walking round the farm, chanced to see the cow, and ordered her to be destroyed. I was over in a few days afterwards, attending to other patients, when the steward informed me of his lordship's orders, and inquired if nothing further could be done, as it was a shame to destroy her, if there was any chance of recovery. I told him nothing further could be done for her but amputating the whole of the glands; to which he readily consented.

I had her prepared for the operation; and, having Mr. Dorrofield, who was attending to my practice, to assist me, I commenced by making a careful incision from before backwards, between the udder and abdominal muscles, tying up the vessels as they came to view. The first I came in contact with was the large vessels forming the superficial abdominal vein, and branches of the internal, pectoral, and epigastric arteries. I then cut through the condensed areolar tissue

separating the lobes, and proceeded as with the anterior lobes, tying up the branches of the epigastric artery, some uniting with those of the anterior lobes, and others which empty into the iliac veins. The wound was then spunged clear, dressed with compound tincture of myrrh, the skin being then drawn over by means of sutures. She was now suffered to get up, when a dose of physic was administered. The wound suppurated, and went on as well as could be expected; and in six weeks from the performance of the operation, only a very small wound could be seen in the centre; while her limbs assumed their natural size. She was turned out again into a good pasture, but did not seem to thrive as she ought to have done.

On the 24th of June, a messenger was dispatched to inform me that the cow had again begun to swell. On examining her, I found a large abscess had formed in the flank, very large and deep. I at first made a careful incision, large enough to admit of the passage of the finger, and, when satisfied it was not a piece of intestine, I enlarged the orifice through the muscles, and evacuated about three pints of thick fetid matter. I found, on examination, that the abscess had seated itself between the transversalis abdominis and internal oblique muscles. The wound was kept open and clean for a few days, and it speedily healed. She was again turned out, and has now made a very good beast.

CASE IV.—*Forked when near Calving.*

On the 4th of August, I was requested to attend a cow of the short-horn breed, the property of Mr. Wm. Timm, Blyth. She was a very good milker, in good condition, three weeks from calving, which would have made her fifth calf. She was bought on the 26th of July. Being brought into the yard one day, she was forked on the right side by another beast, and was perceived to be unwell three or four days afterwards. When my attention was called to her, I found her pulse 65, respirations very little disturbed, appetite not much impaired, but occasionally moaning, and having a glairy discharge from the vagina, of a healthy character. There was no abdominal pain, nor any symptoms of injury done to the uterus. The bowels were rather costive. I administered Magnes. Sulph. \mathfrak{z} xij; Zing. \mathfrak{z} j.

Aug. 5.—Pulse 70; still eats a little; moaning more frequent; rather irritable; udder not much enlarged; the sacro-sciatic ligament a little relaxed; extremities their natural

temperature; and a nice dew on the muzzle. Physic has not operated. Gave another dose of cathartic medicine. Saw her again at night: symptoms much the same as in the morning, except that she seemed more prepared for parturition. Physic operating. Gave her sedative powder, and ordered her to be watched. Should any symptoms of calving come on, to send for me immediately.

About half-past six the following morning, the attendant called on me, and said the cow seemed about the same as when I left her. In about an hour afterwards, another man came to say that the cow was worse, was in great pain, and had made many ineffectual attempts to rise. I hastened to see her, and, on my arrival at 8 o'clock, found her dead. I had intended making a *post-mortem* examination, and gave orders to have her skinned by 11 o'clock. Being, however, delayed, I could not attend till afternoon. When I arrived there, I found the carcass cut up, and the abdominal viscera being destroyed by the pigs.

The cause of death, in my opinion, was the sudden stoppage of the secretion of milk, and turning her out on luxuriant pasture.

GLANDERS IN THE HUMAN SUBJECT.

To the Editor of "The Veterinarian."

SIR,—I send you the following case for insertion, if you can find room for it.

And remain, yours truly,

R. NICHOLSON, M.R.C.V.S.

Wormersly, near Pontefract;

Aug. 13th, 1852.

A lamentable instance of the evil results of empiricism has just occurred at the village of Beal, near Pontefract. Mr. Jackson, innkeeper of that place, had a horse, which becoming indisposed, was placed under the treatment of a person, who from having been a butcher, had commenced veterinary practice. This sapient individual very confidently undertook the cure, saying the ailment was "nothing but a cold," "he would soon set it all right," &c., and proceeded to insert rowels on both sides. His next visit found the animal "all right," it having been buried some days previously. Immediately after, the owner began to be seriously unwell,

with symptoms simulating erysipelas. The disease resisted all the treatment of his medical attendants, and rapidly assumed the appearance of the disease previously exhibited by the horse. He had extensive discharge from the eye and nostril, enlarged submaxillary gland, &c., together with eruption of large red pimples on the limbs.

I saw him two days before his death. He was then insensible, and remained in that state unto the end. From the appearance of the disease, I had no hesitation in pronouncing it a case of true glanders.

A short time since I noticed the occurrence of four cases in Ireland; and therefore thought it right to give the particulars of this case, by way of caution to the owners of animals affected in a similar manner.

I enclose the paragraph cut from *The Morning Advertiser*.

. The said "paragraph" appeared in "THE VETERINARIAN" for August.—ED. VET.

PSEUDO-GLANDERS SUCCESSFULLY TREATED.*

By T. HORSBURG, V.S., Dalkeith.

To the Editor of "The Veterinarian."

SIR,—Glanders, when once confirmed, is a disease found hitherto almost incurable. At least, in cases where we are so fortunate as to see an animal, supposed to be affected, get better, we have doubts in our mind whether it really was that disease or not.

For some years past I have been trying the trephine in such cases as I could get the owners to keep the animals; or, having convenient places, to keep them apart for the proper time. This, however, is not easily managed. There is a fear of danger to others, and a fear of more consequence still, viz., infection to the human being,—thus preventing us from having opportunities we might profit by. Yet some occasionally come in our way, a few cases of which I send you.

A colt, 3 years old, belonging to Mr. Blakie, Farmer,

* Mr. Horsburg will perceive the reason of our superscribing his most interesting paper with this title by referring to cases of our own (in vol. XIX, p. 541, and vol. XX, p. 421, of "THE VETERINARIAN,") singularly parallel, and similar to those which he has related, not in their nature only, but likewise in their treatment and result.—ED. VET.

Murrays, by Stow, going in a court-yard, had had a discharge from the off nostril for more than eighteen months. The matter was thick and yellow, and had a little fetid smell: the submaxillary gland was considerably enlarged. The colt was in good condition. I cast him, opened the frontal and maxillary sinuses on that side, making a free opening between those sinuses, so that the matter might discharge of itself at the depending orifice. Both the cavities were found filled with matter. This treatment was added to by giving a ball, once a day, of diniodide of copper $\mathfrak{D}\mathfrak{j}$, gentian and ginger $\bar{\text{a}}\bar{\text{a}} \mathfrak{z}\mathfrak{i}\mathfrak{j}$, the diniodide being gradually increased to $\mathfrak{z}\mathfrak{j}$. The sinuses washed out every day with a syringe, first with soap and water, then with a lotion of acetate of zinc. The balls were continued for eight days; then for eight days no medicine was given; but repeated for the next eight days as at first. This treatment was continued for the first month. The balls were given each alternate day for the next month; the third month they were given twice a week; no medicine given on each alternate week. The wounds were a little enlarged, as they had nearly closed about two months after the operation. In three months the wounds were allowed to heal. The animal was shortly after put to work, and has continued in the owner's hands without the least appearance of disease ever since.

The horses belonging to Mr. Thomas Young, when farmer of Craigour, near Edinburgh, became affected by a harness-horse having been taken in to winter in the court-yard adjoining his stable. Several of his work-horses were destroyed. A pair of very fine ones were placed in a two-stalled stable, and were operated on. The treatment being something similar to the last, only that they being large sized horses, the diniodide of copper was increased to them to $\mathfrak{z}\mathfrak{i}\mathfrak{j}$ doses a day. The horses were worked during the treatment. Another horse, who had farcy, was kept in an empty house, and not worked. The treatment in his case being the same, with this addition, that the ulcers were opened whenever they were discovered, well washed with a lotion of diniodide of copper, $\mathfrak{z}\mathfrak{i}\mathfrak{i}\mathfrak{j}$ ad $\mathfrak{z}\mathfrak{x}\mathfrak{x}\mathfrak{i}\mathfrak{v}$, with a little of the dry powder afterwards put into the wounds. These animals, to all appearances, got well; but, as they were sold soon after, for fear the disease might return, I had no opportunity of hearing anything more of them.

A very fine saddle-horse, which stood in a separate stable, was sold by Mr. Young to a gentleman in Edinburgh for

50%. He was tried through the fields, to leap over the fences. He pleased well, but had a slight cough. Mr. Young proposed to keep him a few days until the cough had left. Inflammation of the lungs supervened. I attended him, and through the ordinary treatment, he got well. Passing to Edinburgh one day about a week after, we considering him quite recovered, I called, and, on looking over him, discovered a very small ulcer on the Schneiderian membrane. In case it might be of little consequence, I did not inform the owner, but visited my patient about two days after. The ulcer by this time had considerably enlarged. There was now no mistake about the case; glanders were progressing rapidly. In the course of a week the very cartilage of the nose had become ulcerated through, and he could scarcely breathe; he therefore had to be destroyed. It was found then that the groom who attended him had taken the pail the two horses that were under treatment for glanders used, though expressly forbidden to use anything whatever from that stable. The disease had, no doubt, been so communicated; and its rapid termination might perhaps have been caused by the animal being at the time considerably reduced from the previous treatment for inflammation of the lungs.

About two years ago, I was called on by Mr. W. Binnie, to go to the training stables at Gullane in East Lothian, to attend on one of his racing mares that had got strained in the back, from a veterinary surgeon from Edinburgh casting her to fire one of her fore legs for a slight enlargement on the flexor tendon. He supposed she was *done*, as four men had to steady her, and help her into the stable. Mr. Binnie was innkeeper at Caffrae Mill, near Lauder, in Berwickshire, farmer of Overhowden, and a *most determined horse-racer*. The only book he ever reads, or particularly studies, is *The Racing Calendar*; the only newspaper, *Bell's Life*. He can tell you all the winners of the different races from the Derby and St. Leger down to the Leith Carters or Collier's Parades, that have been run between the Land's End and Johnny Groats, for the last twenty-five years. Before those murdering things called railways banished the Jehus off their own good hard-mettled roads, Mr. Binnie furnished horses for at least two long stages of as hilly a road as any in Scotland; and in the spirit of determined opposition to these new iron roads, he, along with Mr. John Croal, of Edinburgh, started a coach called "*The Quicksilver*," *at racing speed*. Mr. Binnie having the worst of the road, infection getting in, or the racing pace

they drove at producing farcy and glanders among his stock, he lost, in little more than a year, one hundred horses, (see his letter.) I went to examine his racing stock, and condemned two breeding mares, (one of them the dam of this my present subject), besides which several others were suspicious. Wizgig, by Wintonian, dam by Malek, &c., my patient with the swayed back, I found in a very bad state. She had a discharge from the near nostril, which had continued from a year old,—she being then five. The sub-maxillary gland was firmly adhering to the bone, and though I had not known anything about former suspicious circumstances, I should certainly have been of opinion she had confirmed glanders. Her owner was of the same opinion; but as she was strong and good, he was determined to take all out of her he could, had not a misfortune stopped her or his career; and as it was likely she would be confined for a considerable time, it was an opportunity I could not afford to lose, to recommend an operation. To this he at once consented, and I appointed a day to meet him for that purpose. On removing the piece of bone from the maxillary sinus, I found it filled with spongy bone, the interstices of which were full of matter. I had some difficulty in making a free opening into the frontal sinus, but when this was accomplished, I found it also filled with matter. The treatment in this case was similar to the others, only in syringing out the sinuses I used a mixture of creasote, ℥iv, with rape oil, ℥xviii. The spine at the same time was repeatedly blistered, and in two months she was well enough to admit of being taken home. Twice I had to open the wounds—not that I thought it was absolutely necessary, but did it to make the cure more sure; and after they were allowed to fill up, no discharge ever again took place from the nose, and the mare remained in every respect perfectly sound and healthy. She was sold about twelve months ago to Mr. Patterson, banker and tanner, here. She has been used during the last winter working in his bark-mill (being in foal to one of His Grace the Duke of Buccleugh's thorough-bred horses), she is now at grass with a fine colt foal by her side.

I may state, that I have never cast one horse for operation since the first (Mr. Blakie's). I can operate quite well standing, with a twitch on. I sent my trephine on request, with instructions, to an acquaintance, Mr. Granger, veterinary surgeon, Girvan, Ayrshire, to operate on a horse that had been treated by some veterinary surgeons there, for some time, for glanders. He operated on the animal, and wrote to me afterwards, saying the horse did uncommonly well.

I send you Mr. Binnie's letter; you may publish it if you please.

Dalkeith; *Aug. 13th*, 1852.

The Pedigree of Wizgig is as follows.

Wizgig by Wintonian, dam by Malek, grand-dam by Wanton, out of Lady of the Swall, by Mowbray. This animal had a running at one nostril from one year old till five years' old, when an operation was made in her head by Mr. Horseburgh, veterinary surgeon, Dalkeith, which carried it quite off, and she has been well ever since. I may mention I had above one hundred horses died of *farcy* and other diseases, by working hard in coaches, and make no doubt had the same operation been made, that a great many would have been saved.

WM. BINNIE, Farmer,
Overhowden, Lauder,
Berwickshire, Scotland.

ALOE WITH GENTIAN AS A CATHARTIC.

By CHARLES PERCIVALL, M.R.C.V.S., Royal Artillery.

MY DEAR MR. EDITOR,—On perusing my friend Hurford's communication of the 15th Hussars, in "THE VETERINARIAN," relative to the combination of gentian with aloes as a cathartic, I felt desirous, from its novelty as such in veterinary practice, to satisfy myself of its effects by testing its value. I have done so: it affords me very great pleasure to be able to bear testimony to the statements of that gentleman in its favour.

Mr. Hurford, in making known to the profession this important piece of information, in my opinion deserves our thanks for the same; for, notwithstanding many practitioners may have been in the habit of administering it, (gentian with aloes,) as I have done in cases of influenza, I believe we were one and all ignorant of its assisting the action of aloes; of which the circumstance of our having all been silent on the subject is a sufficient proof. This I hope to find other members of the profession, in justice to Mr. Hurford, admitting, as well as myself. If the same effect can be produced by *half* the quantity of that drastic drug, aloes, by

combining with it a much milder and less stimulating substance, (*which most decidedly is the case,*) it cannot but prove highly beneficial in very many instances.

Mr. Hurford, in "THE VETERINARIAN" for July, expresses some surprise at the apparent "apathy" in the profession in not having made trial of the above, there being neither expense nor trouble attending their so doing,—or, if they have done so, in not having adverted to, or given in the pages of "THE VETERINARIAN," the results of their experiments; and I think he has great reason for complaint, since, as a new feature in veterinary practice, it ought to have received attention, and particularly at *head-quarters*, and to have been duly reported on by the fountain heads of veterinary science. Sorry am I to say it, but there appears to be a degree of *slowness* in the profession, in these *fast* times too, to acknowledge any novelty or give encouragement to an individual for his endeavours to improve or enlighten us.

Although my worthy friend does not lay claim to, or take any credit to himself for, this valuable discovery, yet I think the thanks of the profession are due to him for the useful information he has communicated to us. For my own part, I beg, through the medium of your periodical, to thank him for the same, and in so doing, finding he is shortly about to take his departure to rejoin his regiment in India, avail myself of this opportunity of wishing that he and his family may have a pleasant voyage, and that health, happiness, and prosperity may attend them.

For the information of those who have not made trial of the aloes in combination with gentian, I beg to state that I administered it to twenty-one remount horses, the majority of them being three and four years old. In the first place, I gave the *common* cathartic mass—which is nothing more than the Barbadoes aloes incorporated with lard and water, in the proportion of 1lb. of the former, with lard, ℥v, and water, ℥j; giving to the three year olds, ℥iv; the four year olds, ℥v; and the five year olds, ℥vj. The second general dose, which was given at an interval of ten days, consisted of aloes, barb and gentian mixed with linseed meal and treacle, giving to the three year olds, ℥ij; to the four year olds, ℥iiss; and to the five year olds, ℥iij of each; which operated equal to what, and if anything rather better than, the ℥iv, ℥v, or ℥vj, of the cathartic mass alone had done.

About the same time I gave of aloes and gentian, of each ℥ss, to three aged, good constituted artillery horses, which produced as good an effect as ℥j of the ordinary cathartic

mass would have done. I am induced to make known these facts, in the hope that, as well as being serviceable to practitioners in general, they may be gratifying to my respected friend, Hurford, previous to his leaving this country.

Mr. Hurford, from his gentlemanly deportment and professional abilities, I am quite sure, stands high in the estimation of his brother officers, and cannot fail to do credit to a profession to which he belongs,—whose respectability depends so much upon the description of men appointed into Her Majesty's service; and I fully concur in opinion with my friend, F. King, of Stanmore, that no person should be recommended for such appointments, who has not presented himself before, and obtained the certificate from, the Board of Examiners of the Royal College of Veterinary Surgeons. I may add, I am sorry to find that this has not been acted up to. I beg to suggest that a memorial be drawn up and forwarded to the Commander-in-Chief, pointing out the impropriety of acting otherwise, and praying that for the future, no individual be commissioned who does not possess the said certificate of the Royal College of Veterinary Surgeons.

C. PERCIVALL, V.S., Royal Artillery.

Dacre Park, Blackheath;
Aug. 17th, 1852.

ALOE WITH GENTIAN AS A CATHARTIC.

By A. HENDERSON, M.R.C.V.S., Park Lane, London.

To the Editor of "The Veterinarian."

DEAR SIR,—I send you an account of some experiments I made, in order to test the effects of a small dose of aloes in combination with gentian. It will be seen that the balance has turned in favour of the remedy, by which I am led to concur with Mr. Hurford's statement, that *half* a dose of aloes used with an equal quantity of gentian is a very valuable substitute for a full dose of aloes, which is but too apt to induce untoward results. At the same time I agree with that gentleman that it should not be made use of as a *regular purge*; since, in the cases wherein I have administered $\mathfrak{z}\text{ij}$ of each ingredient, I have found, generally speaking, that the dose has operated quickly, but *not so vigorously* as I should have expected \mathfrak{v} or \mathfrak{vj} of aloes to have operated on the same subject.

CASE I.—*Repton.*

A bay mare, 15 hands 1 in. high, aged; has had inflammation and considerable swelling of the off fore-leg, just below the knee, from speedy cut. She had aloës, ʒv, on July 1st, which did not operate at all; is to have another dose of physic, to be blistered, and turned out.

July 16th.—Has been fed on mashes for some days.

This morning I gave her gent. pulv., aloës, āā ʒiij. It did not, however, produce any alteration in the state of the fæces.

CASE II.—*Major Bower.*

A bay hunter, 15 hands high, aged, in low condition. He has been up from straw-yard since the beginning of June, and has had aloës ʒv between that time and this, (July 16th.) At 8, P.M., gave aloës et gent. āā ʒiij.

17th, 10, A.M.—During the night he has passed three evacuations, the last being liquid.

CASE III.—*Ingliss.*

A bay harness-horse, 15½ hands high, 8 years old. Has been suffering from severe cough, and discharge from both nostrils, for which he has been under treatment. He is now rather costive, and this morning (July 17th) I gave gent. pulv., aloës, āā ʒiij.

19th.—He purged freely.

CASE IV.—*Hives.*

A bay hack, has very bad cracked heels. Was mashed on the evening of the 21st, and again on July 22d, in the morning, after which I gave her aloës, ʒiiiss, gent. ʒiij, having been fed on green food previously.

23d, 11, A.M.—Dung soft. In the afternoon she was trotted out for a short time, and purging came on.

CASE V.—*Aylwin.*

Chesnut gelding, 15½ hands high, very fat and gross.

July 23d.—He was mashed yesterday and the day before, and this morning, at 9, A.M., I gave him gent. et pulv. aloës, āā ʒiij.

24th.—The ball given yesterday has not produced purgation; the fæces can hardly be said to be softened.

CASE VI.

A bay carriage-horse, 15 hands, 3 in. high, 5 years old.

July 26th.—Was mashed yesterday, and at 10, A.M., to-day gave aloës, gent. pulv. āā ʒiij.

27th.—The ball operated nicely.

CASE VII.—*Wood & Co.*

July 29th.—A fine brown cart-horse injured his shoulder a few days ago, and has been fed lightly ever since. This morning he had aloës, gent. pulv. āā ʒiiiss.

30th., 11, A.M.—I saw the horse, at which time the ball had taken no effect; but towards evening (I was told) the dung was considerably softened.

CASE VIII.—*Same as IV.*

July 30th.—Was mashed morning and evening.

31st, 8, A.M.—Had another mash; and at 9 I gave her aloës, gent. pulv. āā ʒiij.

Aug. 1st.—She purged during the night.

CASE IX.—*W. H.*

Aug. 8th.—A grey gelding, 5 years old, 16 hands 1 in. high; has been at very hard work lately; is now to be rested and have a dose of physic. This morning I gave a ball composed of aloës, gent. pulv. āā ʒiiiss.

Aug. 9th, 10, A.M.—The physic had not moved him; but at 3, P.M., he was jogged out, and purging came on.

CASE X.—*Wagner.*

Aug. 9th.—A grey mare, 16 hands high, with light carcass; has been running in harness with XI. Both are to lay by, and have physic. This morning I gave them both aloës, et gent. pulv. āā ʒiiiss. The grey mare was trotted out two or three times in the afternoon, but she did not purge to any degree.

CASE XI.—*Alphon.*

Aug. 9th.—A black mare, about 16 hands high. The ball she had worked her very well.

CASE XII.—*Wood.*

A fine bay cart-horse, fell down while drawing a loaded cart, and the shaft struck against his near arm, producing a lacerated wound, which, when I saw it, (Aug. 11th,) was

much swollen and painful. He has been fed on light food since the accident, and I ordered him to have aloës, gent. pulv. āā ziiiiss, this evening.

This ball did not take any effect on him. The next day it was wet, and he could not be walked out.

The *résumé* of the foregoing trials stands, therefore, as follows:—Out of 12 horses submitted to the operation of *catharsis*, in 7 the medicine has produced the intended effect, in 5 it has not.

THE OPINIONS AND EXPERIENCES OF A COUNTRY VETERINARIAN.

To the Editor of "The Veterinarian."

SIR,—Until within the last eighteen months my professional experience was almost entirely confined to a district purely agricultural; and it has often occurred to me, in the toil and routine of country practice, that the opinions and experiences of some one like myself, fairly and honestly narrated, would not be wanting either in profit or amusement to such as happen to be interested in veterinary pursuits. There is a wide difference between *town* practice and *country* practice, properly so called. Each may possess some advantages over the other, and both, no doubt, have their peculiarities; but I have long been of opinion that the mere country practitioner, enjoying, as he does, a much wider field of observation, and shut out, as he is, by his geographical position, from all communication with his professional brethren, seldom seeking aid by reference to books, and left therefore to battle, alone and unassisted, with the most difficult and intricate cases,—if he has a harder lot than his brother practitioner of the town—has certainly the most perfect opportunities for arriving at correct conclusions. His experience will teach him not only the exact value of all that has been written by others, but likewise the necessity of a full reliance on his own knowledge and resources.

Of our modern writers on Veterinary Medicine, not one can be said to belong properly to the ranks of the class to which I refer. This, I think, is to be regretted. There is, for example, only one book in our language, of any standing, on the diseases of cattle; and this—although a worthy monument of the industry and literary abilities of its author—is still no more than a well-written compilation—a mere collection of the observations of others, abounding with fallacies of opinion and errors of description. It is no irre-

verence to the memory of Mr. Youatt, to say that his work does not carry with it the stamp of the *practical* man. I admit that he accomplished much, that he cleared away a good deal of dirt and refuse, and brought us something better in their places; but much, very much more, yet remains to be done. And it is, I confess, only to some one who has dwelt and practised in the retirement of the country that I look with much faith for the ultimate accomplishment of this task.

It is true, the country veterinarian is seldom a man of much literary talent; indeed, such a man is not likely to court the avocations of the country veterinarian; for his is by no means an enviable occupation. I have had some experience herein myself, and may therefore speak with some authority. His life is one of almost constant anxiety, and his remuneration, too often, no more than "a beggar's harvest, gained by nightly toil." His practice is frequently an uninterrupted struggle against the follies and prejudices of the least-educated class of the community on the one side, and the most important quackery on the other. Even the honours and distinctions, such as they are, that lie within the reach of some members of the profession, are never attainable by him. No chance, for instance, of *his* ever being elected one of the Board of Examiners; little hope is there of *his* name figuring on the Council of the College. Why, he has no vote even in the election of this body, unless he chooses to purchase it at just so much as the expenses of a visit to London, (he is living at a distance probably of two or three hundred miles from the metropolis,) added to his professional losses by absence, amount to; and where is the individual, I should like to know, who can afford to do this? When people talk of the apathy of the profession, our neglect of the Charter, and indifference to our own interests, and of the beauties and advantages of self-government, they never seem to think of these things. Of the feelings and opinions and requirements of a certain class of veterinary surgeons, you, yourself, for instance, may be a fair, as you are, doubtless, an able exponent; and the same may be said of such men as Field and Cherry; but the great bulk of the profession,—not they who drive about in fashionable dog-carts,—but such as are content to bump the saddle on useful cobs."

" Remote, unfriended, melancholy, slow,"

the hard-working and ill-requited country practitioners—how, where, and by whom are they represented, I wish to ask?

To drop politics, however—If the country veterinary is excluded from these honours and advantages, as I have already remarked, his experience, ranging over different classes of animals, and embracing a greater variety of circumstances, offers to an inquiring mind a much wider sphere of observation and comment. That mind, therefore, is often the garner house of curious facts and notions which have never yet obtained publicity. Having, then, some claim to belong to this order myself, I have jotted down, from time to time, such things as seemed to me curious, in a professional point of view; and from these notes I purpose to draw up a series of articles for the pages of your journal, which, from their discursive and somewhat versatile character, I have designated as above.

Trusting that these “Opinions and Experiences” may meet with your approval,

I remain, Sir, yours, &c.,
W. LITT, V. S.

Shrewsbury; *Aug. 10th*, 1852.

A SINGULAR CASE.

On the 11th of February, 1846, I was requested to attend a brown two-year-old colt, the property of Mr. John Starr, of the Moor, near Bishop's Castle, in this county. Mr. Starr was, at that time, a very extensive farmer; and many of the London dealers will remember him as one of the best breeders of fashionable horses in Shropshire. The colt in question had been running out during the whole of the winter with several of his fellows; and had also been regularly fed with a certain quantity of hay and oats. In spite of this, however, he had fallen off considerably in condition; and within the previous few days had manifested a great indisposition to stand up, although his appetite was not, in any degree, impaired: indeed, he even ate voraciously. Such was the history of the case, as I received it at the time; and the symptoms were not much more satisfactory.

I found him lying down, eating eagerly of hay. His eye appeared clear and lively; indeed, almost unnaturally brilliant, although he was considerably emaciated. His pulse was about 70, thin and irritable; and his respiration hurried—upwards of 60 in the minute—short and painful. There was slight occasional cough, and he evinced some soreness over the region of the windpipe. He could not be induced to stand, even for a minute, when raised to his feet by force,

and never manifested any disposition to rise up of his own accord, although he evidently possessed the full power over his limbs. The membranes were of the ordinary colour, the extremities warm, and the secretions perfectly natural. Before I had concluded my examination, he suddenly left off eating, stretched himself out at full length, and lay thus, with his head extended, manifesting extreme pain, for five or six minutes; after which he would again elevate his head and neck, and resume his feed, which he seemed to devour with the utmost voracity. These paroxysms occurred about every twenty minutes.

Such, then, were the symptoms, as nearly as they can be described. Will the reader—it matters not who he may be, Professor, Examiner, or “the eminent Veterinary Surgeon, Mr. Anybody,”—be kind enough to cover over the remainder of this article, and tell us what was the nature or the seat of this animal’s malady? “Spinal or cerebral disease,” I hear somebody exclaim, with the greatest self-satisfaction. Nothing of the kind, sir,—guess again! “Chronic derangement of some of the intestinal organs.” A very extensive surmise, certainly, but not correct! “Oh, then, some thoracic affection.” No, sir, I see, you know nothing at all about it; and, therefore, you must read what follows. You may be very clever—I dare say you are; but you are no more a conjuror than I am.

Well, then, not being a conjuror myself, I confess I was puzzled. *We* scientific practitioners often are so; but this seldom happens with the farrier of the old school. When the owner of our patient asks the very natural question of “What is the matter, Sir,” *he*, the farrier, self-assured, and happy in his ignorance, is *never* at a loss for the answer. Why, I know twenty men, who, had they been consulted on the case in question, would each have explained the matter, boldly and promptly, and, what is more, to the entire satisfaction of any required number of honest English farmers. It is easily done. “He’s gotten a thorough cold and an inflammation all over him,” says the farrier. “Aye, very likely,” returns the farmer, “I was thinking as much, myself.” Nothing could be clearer. The *abracadabra* is soon acquired. Impudence is the indispensable accompaniment of empiricism;—why then do *we* hesitate to assume the mantle? Gentlemen, members of the Council of the Royal College of Veterinary Surgeons! What say you to the appointment of a professor of the principles and practice of humbug? Believe me, these things are very necessary to ensure success. Educating the practitioner is all very well: I admit its neces-

sity. I admit that, as a body, we need it vastly. But until you can educate those who employ us, or ought to employ us, as well, the scientific veterinarian must have a hard fight unless this same humbug is called in to his assistance. Armed with this he may probably succeed: let him eschew its aid, and the merest pretender, the most ridiculous and ignorant quack, with a fair share of impudence, will very likely beat him in the race.

Notwithstanding all this, however, my admiration of such adjuncts, and my knowledge of their utility—like most of those who will read this article, I suppose, I am but a sorry professor of them myself; and, therefore, I forbore, in this instance, to give an exact definition of the nature of my patient's malady to the owner. I told him simply that it was an obscure case, and very likely he was satisfied; for I had had many previous opportunities of winning his confidence. There being some soreness of throat, as I have already stated, and the pulse being high, I commenced my treatment by stimulating over the region of the windpipe, and administering fever medicine. But a few days' trial of these means was sufficient to convince me of their total inefficiency. Without any change in the symptoms, the poor animal's sufferings seemed gradually to increase in intensity. His debility was excessive, and he continued to sink rapidly. Tonics were had recourse to,—the sulphate of copper and gentian,—but in vain. The paroxysms became more frequent; he never seemed, even for a moment, relieved by anything that was done for him; and, on the evening of the 26th, fifteen days after I first saw him, he died, notwithstanding that, at times, he ate ravenously to the last, worn almost to a skeleton.

And now the mystery was to be cleared up. I was, of course, too much interested in the case to let slip the opportunity of making a post-mortem investigation; and, accordingly, at some personal inconvenience, I attended on the following day for this purpose. The chest and abdomen were laid open in the usual manner, but the viscera of both these cavities were in a perfectly sound and healthy condition. In that portion of the peritoneum, however, which lines the abdominal muscles, numerous patches of inflammation were visible; and a nearer examination discovered underneath the membrane, and in the cellular tissue between this and the muscles themselves, *an immense number of worms*. These parasites were diffused in this situation over the entire surface of the walls of the abdomen, and, I am sure, I do not in any way exaggerate, when I say there were *hundreds of them*. From what I know of such things, I should say they were of

the *strongylus* species, as they were generally about two inches in length and smaller at one end than the other. They were still alive and moving, and when I cut away a portion of the tissue containing them, they manifested a considerable aptitude for escaping from their singular imprisonment.

I need not remark that the extraordinary nature of the case surprised and interested me. With a view, therefore, to its preservation, I removed a considerable portion of one of the walls of the abdomen, and put it aside. I regret to add that it was afterwards carried away by a favourite greyhound, and that I thus lost the "ocular proof" which I could otherwise have afforded in verification of what may seem to some an improbable case. It was seen, however, by many persons of undoubted veracity, and amongst others, I may mention, by my friend Mr. Henry Brooke, a surgeon in extensive practice at Bishop's Castle, who will very likely remember the circumstance, and can therefore testify to the correctness of this account, should anybody interested continue sceptical on the subject.

This case of worms imbedded in the cellular tissue is, in my own practice, I confess, an unique instance of the kind. Probably its publication may bring to light some others; but under any circumstances, it cannot fail to possess a high degree of interest to the scientific student. It proves to us, at least, that the intestinal tube is not the only situation in which worms may be developed and even nurtured. The immense irritation which they produced, and the fatal result, I think, however, go far to prove that this was not their natural nidus. Whether or not it sheds any light on the disputed theories of the generation of such parasites, I leave to more philosophic minds to determine. Somehow or other, this paper has already lengthened considerably on my hands, and, therefore, I shall not trouble the readers of "THE VETERINARIAN" with any further observations on the subject.

NORTHERN EMPIRICISM.

Dalkeith; Aug. 13th, 1852.

To the Editor of "The Veterinarian."

SIR,—Most unfortunate are the veterinary surgeons in this quarter of Her Majesty's dominions; and fortunately for others it is that your journal is published, so that it may afford information which may prevent others in

future learning a profession in which they may be *done* by opposition,—after years of toil and expense in learning a business that can be successfully followed by any ignorant blockhead, if he has only the impudence and show of importance to commence gulling the public. Just raise a cry that he is clever, and he will soon get plenty of gulls. We have long had a human-practice guller; and can furnish the public with a quack in the shape of a *Cabbage Doctor*, who has made a discovery: betting all veterinary surgeons that “*He can cure disease.*” Your readers will, perhaps, not know what this disease is, or who this Cabbage Doctor is: but be not surprised; the disease is what has beaten most of them to cure in all cases: it is no less than *pleuro-pneumonia*! and our Cabbage Doctor is no less a personage than Mr. R. Wallace, a market gardener here.

Something more than twelve months ago, he had a cow seized with inflammation of the lungs. I attended her, and had her placed in an out-house, for free air. But his old mother and myself could not agree about the treatment. Every time I called she had every crevice stopped up, and the cow’s head and throat wrapped up with warm blankets, giving her own medicine to the animal. Under these circumstances, I left her to do as she pleased. She however did not manage to mend the case. The cow died, and was sent to the Duke of Buccleuch’s kennel to feed the dogs.

Down, however, went Richard to make a post-mortem examination, and he at once discovered cause, effect, and cure. So he now professes to cure the disease ’at is. He kens the property of medicine; he kens how mukle to gie ’at is; he can gie loudnaum ’at is; and he can cure all he tries ’at is; only if they are no ower lang o’ sending for him at ’is.

Such are the professions of this quack of a *Cow Doctor*, for he does not attempt horses yet,—he has not seen the inside of one at present; or, perhaps he is afraid of being kicked. However, such is the gullibility of the public, that he is actually sent for to attend the cows of some farmers,—even of our own Baillie,—or, at least, some of his servants have sent for him; and he is this week practising in Edinburgh. Some short time ago he got up a drunken squad for a night’s jollification in an inn, when he was said to have been presented with a silver snuff-box for his great abilities in curing *pleuro*! His farmer friend, who first made him believe, or rather sounded his praise, has drunk himself into the bankrupt’s list; and, unless it was his he cured, (which I know nothing about,) he has never cured one here that I have heard of. Yesterday, I am informed, four died under his

hands in Edinburgh ; and, by his own account, six are very ill. Pretty good work for one week ! Lately he made a poor man, named Pringle, believe he could cure one of his cows, (he had two.) He could have got 4*l.* for her for slaughter, from Mr. Alexander Watson, *our* pleuro doctor. But Wallace fed her on laudanum and salts for near a month. She cost the poor man 1*l.* 4*s.* for medicine, and died at last, and was sold for 3*s.* 6*d.* ; and his neighbour's cows immediately followed. A poor widow, in the back street, shared the same fate. 5*l.* would have been given her by Watson ; but 3*s.* 6*d.*, at His Grace's dog-kennel, was all the poor woman obtained. I do not know what she paid for laudanum. One of the Marquis of Lothian's workmen had another. He has had her buried in the garden, to make the cabbages grow. And a week or two ago, I examined a cow belonging to a travelling dealer, which had fallen ill at an inn, with hoven from eating wet clover. Some person told him of Wallace's great skill in cows. He was sent for, and proclaimed it *the disease 'at is !* began pouring in his medicine, while doing which the cow dropped ; nevertheless, he continued to pour, the dealer calling out all the time to him, in his south-country tongue, "What ar' ye power, powerin at ? the cowe is deyin, the cowe is deyin !" And so she did immediately, Wallace declaring, "I was ower lang ye see, ower lang ye see." Mr. Gray, one of our extensive mill-masters, had a cow calved a few weeks ago. The weather was very warm at the time, and puerperal fever followed. Wallace ran to the case,—"*The disease 'at is, the disease 'at is !*"—the cow got the medicine, but soon was gone. The kennel-keeper told me he came to see her. He said he knew "what was wrang,—it was the blether 'at is,—the blether 'at is."

I send you this communication, not under the impression that it can turn out of any service, or be of any great interest to the veterinary profession ; but to show—what they will hardly credit,—that such things as I have endeavoured to represent have transpired, even in this present age of improvement, notwithstanding veterinary surgeons of ability and experience are scattered over every part of the country. I am sorry to be obliged to avow that my countrymen—notwithstanding some of them enjoy the credit of being intelligent—are, in medical cases, extremely *gullible* ; else, would anybody believe it possible, in the nineteenth century, for an ignorant, drunken blockhead to succeed in making himself of importance enough to assume a profession neither nature nor art ever fitted him for, and be able to per-

suade people he could cure diseases which, both in man and horse, baffle the skill of the most learned doctors! I have seen, even within these few years, a party go to a drunken prostitute to get her cow's fortune told, while I was attending the animal for puerperal fever; and received orders to take a little of her blood, boil it until it went to nothing, bury a bottle of her water in the garden,—and then the cow would get better!

J. HORSBURGH, V.S.

EPIDEMIC AMONG HORSES.

To the Editor of "The Veterinarian."

SIR,—I have not seen your journal for the present month; but am informed by Mr. Peech that it contains a question from you requesting to know whether there is any truth in the paragraph copied from *The Sheffield Times* into the London papers, as to the influenza in horses having been prevalent amongst us. I beg to reply that there was just foundation for such remarks: I have myself had a great number of cases under my care.

I am, Sir, yours truly,

B. CARTLEDGE, V.S.

Market Street, Sheffield; *Aug. 19th*, 1852.

_ Mr. Cartledge will accept our thanks for his prompt answer to our inquiry. Would he, or our respected friend and brother-councillor, Mr. Peech, send us a sketch of the "Epidemic" among their horses; the account would probably add some useful links to our present chain of facts on the subject of *Epidemics* or *Influenza*.—ED. VET.

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

AN INQUIRY INTO THE REASONS WHY THE HORSE RARELY VOMITS.

By JOSEPH SAMPSON GAMGEE, Esq., Student in Medicine in University College, Dublin.

[Continued from page 446.]

"Enough to make a horse sick"—a vulgar saying current among us from time immemorial—is of itself sufficient to

show that the popular mind has been long impressed with some strange notion,—some difficulty or impossibility,—in relation to horses being sick, *alias* VOMITING; while the records of science bear evidence of the subject being one which has for upwards of a century, at one time or other, attracted the attention of medical philosophers. Mr. Gamgee has been at the pains, as we have seen in the course of his paper, (printed in the two foregoing Numbers of “THE VETERINARIAN,”) to present us, in detail, with the opinions of the most eminent of these; and has, in addition, interspersed them, here and there, with citations from such veterinary authorities as he found to be of any weight or importance in his ‘Inquiry.’ With this collective evidence he not only establishes the fact, *in limine*, that the horse *can*, and on occasions *does*, vomit; but various and different as are the theories said to account for the fact, he is enabled to reduce them all down to this one point of accordance and similitude—that they, one and all of them, ascribe the difficulty of the act to *mechanical obstacle*.

“Different,” says Mr. Gamgee, “as are the opinions we have hitherto commented upon, they yet present one remarkable point of analogy, inasmuch as all their authors attributed the horse’s difficulty to vomit to a *mechanical obstacle*. It affords me pleasure gratefully to acknowledge, that for not falling into the same error I am indebted to Dr. Sharpey, who gave me an all-important hint by suggesting an inquiry into the action of emetics on the horse. It at once occurred to me, that as the mechanical part of the act of vomiting is excited by a reflex stimulus from the nervous centre, it behoved those who undertook to demonstrate why the horse rarely vomits, to study two classes of phenomena—the *nervous* and the *mechanical*:—for it is quite obvious that if the stimulus to the expulsive effort be wanting, it is useless to attribute the impossibility of the evacuation of the stomach by the œsophagus to mechanical obstacles, for they have no opportunity of coming into operation. Moreover, since I have excluded the existence of any mechanical impediments to vomiting in the horse, it is evident that the question which forms the subject of my inquiry can alone be solved by determining what is the action of emetics on the nervous system of the horse.”

Here, then, is the key to Mr. Gamgee's objection to the old or usual explanation of the causes hindering a horse from vomiting, together with the alteration in, or rather addition to, this theory which he proposes to make; and a most important and essential one it must strike every inquirer into the matter to be. It is, indeed, as in the case before us, the lack of the consideration of the vital phenomena which so frequently renders our theories imperfect and unsatisfactory; as it is the same omission, or defective or inadequate knowledge of these operations, which gives rise to the perplexity so apt to be felt in searching out, in the living body, cause for effect.

M. Mignon, as we have seen at page 394 of the 'Inquiry,' whose "report" Mr. Gamgee did not see until after he had received "Dr. Sharpey's hint," had taken the same view of the matter. "Is not the stomach of the horse that vomits," he asks, "in conditions which no experiment would reproduce? and do you give no consideration to the *nervous element*, which you forget to regard as one of the data of the problem?" After all, however, we find by the 'Inquiry,' (p. 379,) that M. Mignon had unequivocally avowed assent to Girard's *mechanical* doctrine." Of which, indeed, we have had subsequent evidence, as shown in "THE VETERINARIAN" for the preceding month, (August,) at pages 450-1, wherein we find it stated that vomiting is the result of impediment or obstacle set up at the pylorus to the egress of matters from the stomach, "while the *cardia* becomes dilated into the form of a funnel. . . . When this becomes the condition of parts, the act is for the first time performed through the contraction of the abdominal parietes *alone*, favoured by the straightened rigidity (*direction imprimée*) of the neck."

Mr. Gamjee next proceeds in his 'Inquiry' to—WHAT IS THE ACTION OF EMETICS ON THE HORSE? Notwithstanding the general impression and belief that tartar emetic—the potassio-tartrate of potash—will not, administered by the mouth, excite vomiting in the horse, some French physiologists declare that, if the same be injected into the virus, it will produce efforts to vomit. Due consideration, however,

of all that has been advanced, as having been brought to light by experiment, has led Mr. Gamgee to the conclusion that, "there is strong ground for the belief that the horse is *unsusceptible* of the specific action of emetics, *even when directly injected into the circulating system.*" (p. 445.)

Mr. Gamgee, however, not resting satisfied with a conclusion deduced from the assertions and experience of others, came to the determination to experimentalise for himself, and this he did on a horse and a mule; from the results of which he felt justified in opposing his conclusions to those of Dupuy, and others, "in stating that all the attempts hitherto made to excite efforts to vomit, in the horse, by emetics, have failed." And that "this *unsusceptibility* to emetic action, and the very rare manifestation of the phenomena of vomiting by the horse, must obviously be regarded as cause and effect, and, consequently, as an answer to the question, Why the horse rarely vomits?" (p. 446.)

Professor Coleman expresses himself, in his 'Lectures,' as follows, on the subject:—

"Such animals as live solely on vegetable food, are not liable to eat more than they are able to digest, and so to abuse their stomachs; consequently, have not the power of vomiting. Thus it is with the horse,—*he cannot vomit.* Whether this be design or not, the facts are, that we possess the power, and so do dogs, of vomiting, both our stomachs being liable to abuse. But, besides this, if a horse could vomit, the contents of the stomach must be ejected into the larynx and nose, in either of which situations the act might be productive of suffocation. *There are certain medicines which will excite a desire in a horse to vomit,* though they are not of that kind which are administered as emetics to the human subject. Tartar emetic (*antimon. potassio-tartras*) *has no power at all.* Hellebore and aconite are the most active. I once saw an instance where some food was forced partly up the œsophagus, but not so far as the larynx. We have no medicines that will produce nausea; for, although they excite efforts to vomit, we know of no disease where they do good: on the contrary, they increase the pulse instead of lowering it."

Of the effects of aconite on the horse, of our own personal experience, we know nothing; but of that of hellebore we

have had many demonstrations. It was formerly our practice to produce, to the extent we were able, *nausea* in cases of pectoral disease; and there was no medicinal agent we found so useful and effectual for this purpose as white hellebore (*veratrum*). In doses of ʒss to ʒj, of the recently-dried root, we were able to produce and keep up a sense of nausea, which was found very influential in lowering the pulse, both in strength and frequency; and, by thus depressing the circulation, abating, at the same time, the inflammatory action. But there was this drawback on its beneficial operation, which was, that every now and then a spasmodic or convulsive action of the muscles of the body and neck was excited, with “gulpings,” which we regarded at the time as so many *efforts to vomit*. This was in the worst cases attended with great prostration, cold sweats, anxiety in the extreme, sinking, and death; though, sometimes the prostration, &c., was present without any efforts to vomit.” Percivall, in his ‘Lectures,’ published in the year 1825, has the following paragraph in immediate reference to the subject :

“ Though this (the horse’s) power of rejecting the contents of the stomach is no longer questionable, it may, and with truth, be maintained that Nature has not endowed the horse with the *faculty of vomition*. Whenever it happens, whether the act be a voluntary or an involuntary one, it must be ever regarded as one *out of the course of Nature*. The opinion has been current that whatever a horse vomited must necessarily all pass through his nose; and certainly the anatomy of the fauces appears to warrant such a conclusion. This is a mistake, however; for the depression of the larynx in the act of retching admits of the escape of some of the discharged matters, and occasionally of a good portion of them, into the mouth. In the case of gastric tympany I have related, the animal had, shortly before death, three copious liquid ejections from the stomach, much of which was vomited by the mouth. That we have not ready means of exciting *nausea* is still more hypothetical. A dose of aloes seldom fails to cause it; and we may at any time produce it to any degree we wish, and often with the most beneficial results, by the administration of white hellebore. *This may be carried so far as to excite painful efforts to vomit, but I have not seen the act itself occasioned by it.* Henbane and wolfsbane, Professor Peall assures us, have similar effects.”

The case adverted to by Mr. Percivall is the following :

“ On the 5th September, 1824, a youngbay mare belonging to the artillery was admitted into the infirmary with symptoms of colic, for which she had to lose viij lbs. of blood before she came in. Her symptoms were of the most violent description. She sweated profusely from paroxysms of agonising pain, worked hard and quick at the flanks, and had a thready and almost imperceptible pulse. The following drink was prescribed to be given immediately:—Tinct. Opii et Ol. Terebinth. āā ℥iij ; Decoct. Aloës, ℥vj. M. In the course of half an hour this was repeated ; but shortly after, she vomited the greater part of it by the mouth and nostrils. No relief having been obtained, xij lbs. of blood were taken from her, and this drink given, viz., Tinct. Opii, ℥iv ; Decoct. Aloës, ℥xij ; Ol. Carui, ℥ss. M. ; and a stimulating embrocation rubbed upon the belly, and large and frequent clysters injected. In another hour this drink was repeated ; and again, for the fourth time, during the succeeding hour ; both of which (last drinks) she rejected as she had done the second one. Notwithstanding active measures were promptly taken, she died three hours after her admission. Having opened her, we found the stomach prodigiously distended with air : it was at least three times its ordinary size. When punctured, it subsided to about two thirds of its former bulk. It contained masticated oats and hay, swimming in a greenish-yellow fluid, which emitted an offensive odour. Had we suspected the presence of air, we should have attempted to have introduced a flexible hollow tube into the stomach.”

From this it would appear, that even with all the power of *white hellebore*—certainly the most potent agent, as simulating emetic operation, we possess, so far as horses are the subjects—we are not able to produce actual *emesis* at will : if it occur, which now and then it will, still is it to be regarded rather as an *accidental* effect of the medicine than as a natural or positive one. Shall we, however, for this reason, denounce the horse as an animal wanting susceptibility to emetic action ? Before we come to this conclusion, let us extend our inquiry a little farther into facts : let us first review those standing on record in our own annals.

CASE I of “vomition,” recorded in “THE VETERINARIAN,” in vol. III, (1830,) is related by Mr. Baker, of Sud-

bury. He was called to a mare reported to have the "gripes," whom he found "vomiting copiously,"—she was "prevented from lying down," by being led about all the while; but she "continued every four or five minutes to eject a large quantity from her stomach, which flowed through both nostrils." Opium suppressed the vomiting and relieved her, and she recovered.

CASE II, related by Mr. Roper in vol. VIII of "THE VETERINARIAN," (1835,) is one that occurred in Mr. Langworthy's practice. The horse was attacked with "all the symptoms of gripes," and was next day found "discharging incessantly a yellow fluid of a very offensive odour, in large streams, from both nostrils, and which was marked by all that labour and distress which usually attends this marked action in the H. S."

Post-mortem.—The stomach was found "distended almost to bursting;" and in the ileum the passage was "blocked up:" the intestines posterior to the obstruction being "flaccid and empty," while there existed "great distension of the stomach and small intestines."

CASE III, "VETERINARIAN," vol. XII, (1839,) related by Mr. Tombs, is the one adverted to (at p. 388 of "THE VETERINARIAN,") by Mr. Gamgee. A mare, the property of a medical man, while on a journey, "suddenly cringed herself up and vomited a gallon of indigested fluid and saliva: she vomited three or four times in the course of her journey." A copious flow of saliva continuing, her mouth was examined, and an oat discovered "imbedded in the lining of the upper lip," to which Mr. Tombs seemed to ascribe the vomiting.

CASE IV, we meet with in vol. XV of "THE VETERINARIAN," (1842.) Mr. Hughes, the narrator of it, attended an old breeding mare for gastritis, whom he found "vomiting, *per nasum*, large quantities of a fluid similar to saliva in appearance." He gave her belladonna, hydrocyanic acid, &c., after which vomiting ceased. She afterwards "quickly recovered;"—"but had not been at work more than three or four days when she had another attack;" of which she was cured by similar treatment. By the narrator of this case, Mr. Pritchard,

no mean authority among us, is reported to have said—though we cannot find, from the reference given, *in what place*—that he “never saw a horse *fairly vomit* the contents of his stomach.”

CASE V, in vol. XVII of “THE VETERINARIAN,” “a case of vomiting in the horse, caused by invagination of the small intestine,”—is reported from the *Compte-Rendu* of the Veterinary School at Lyons for the Session 1841-2.

CASE VI, vol. XXII, (1849,) contains a case of “Bronchitis,” occurring to Mr. Hooper, of Cheltenham, in which vomiting supervened during convalescence. After the mare’s return home from Mr. Hooper’s infirmary, he was suddenly recalled to her on account of her being “as sick as a dog.” She vomited several times in Mr. Hooper’s presence. “She ejected masses,” consisting of green-meat mixed with a great quantity of mucus,” which “passed entirely through the *oral* opening, and not through the nasal, as is usual.” Mr. Hooper ascribed the vomiting to the administration of tartar emetic. A draught containing hydrocyanic acid allayed the vomiting.

CASE VII, the last recorded instance of vomiting coming within our knowledge, is that related by M. Sanson in the last number of “THE VETERINARIAN,” any abstract from which, it being so recent in our memory, becomes unnecessary.

Few and far between, as the foregoing cases are, while they furnish of themselves but scanty grounds for an answer to the question, “why the horse rarely vomits,” they serve to show that the question could hardly, with propriety, be couched in any other form; since, it cannot be asserted, that the horse, *by nature*, does vomit, no more than it can be contended that he does not vomit; neither do the instances of vomiting we hear from time to time from the mouths of practitioners—although almost every veterinary surgeon, of any standing in practice, seems to have one or more to narrate,—invalidate this form of impression. The horse’s stomach, with its appurtenances and dependencies, was evidently never constructed for the action of *emesis*; whenever compelled to undergo such, the act is manifestly one *contra naturam*.

Nevertheless, so far from its being an *impossible* act, there are, as we have seen, several instances of its occurrence on oral and scriptural record, the theory of which extraordinary or unnatural performances it behoves us here to deduce from inquiry. In three of the cases out of the seven, whereof we have given abstracts, *obstruction of the pylorus*, or of parts in direct communication with it, was demonstrative; and though in the other four no such obstruction was physically demonstrable, yet might we, we think, be justified in assuming that such existed either on account of spasm or other cause, which proved of but temporary duration, and yielded after such duration either spontaneously or to remedy.

We believe, in the horse as in the human subject, *pyloric obstruction* to be a necessary condition to the production of *emesis*; and, with Mignon, that “when this becomes the condition of parts, the act (of vomition) is, for the first time, performed through the contraction of the abdominal parietes *alone*, (or in conjunction with the stomach,) favoured by the straightened rigidity of the (passage along the) neck.” At the same time, we must suppose that pyloric obstruction is required to be of greatly more force and persistence in the case of the horse than in that of the man, in consequence of the natural obstacles to vomiting being so much less surmountable in the one case than in the other, and which must be overcome before the act itself can take place. Disease of the pylorus, or obstructed small intestine, &c., may give rise to the stoppage of the ordinary passage for the aliment, and cause it to reascend, in spite of all natural mechanical obstacles, through the œsophagus; likewise spasm or paralysis, it would seem, may have, *pro tempore* at least, the same effect. Indeed, it is not impossible but that there may occur cases of pyloric obstruction, temporary or permanent, in which collections of air may force their way, by expansive force, through the cardia, as in Mr. Percivall’s case, giving rise to a kind of gulping or eructation, with discharge of air, which may be accompanied with simultaneous ejection of aliment,—though it must be acknowledged such instances among horses are rare.

Touching the *susceptibility* of the stomach of the horse to emetic action, or to the operation on it of medicines called *emetics*, from the known effect they have on the stomachs of man, dog, &c., though the former is insensible to the working of the majority of such agents, it is not insensible to all of them. It has been shown that even tartar emetic, introduced into the circulation, has some such effect; and we know, of our own experience, that white hellebore often—not invariably, perhaps,—produces the same effect. For we regard the general state of convulsion—rigidity—into which the muscles of the body and neck are thrown in such cases, as the *preparative* or *incipient* to the act of vomiting, into which such spasmodic muscular contraction or rigidity would develop itself were the act not rendered *abortive* by the want of the presence of the necessary condition to it, viz., *pyloric obstruction*. And therefore, our answer to the question, “Why the horse rarely vomits?” must be:—because in his stomach—which is manifestly much less susceptible than the stomachs of man and most other animals—pyloric obstruction, of sufficient amount, or resisting force, to overcome the natural obstacles to an act he is so unfitted for, rarely exists.

PROCEEDINGS OF THE COUNCIL OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

SPECIAL MEETING OF COUNCIL, *Wednesday, July 28th, 1852.*

Present—The PRESIDENT; MESSRS. BRABY, CHERRY, A. CHERRY, DICKENS, HENDERSON, STOCKLY, WILKINSON, WITHERS; Professors SIMONDS and MORTON, and the SECRETARY.

The PRESIDENT in the Chair.

The minutes of the preceding meeting having been read and signed, and some correspondence read, to which the Secretary was directed to make the necessary replies, the election of a Vice-President was proceeded with.

Mr. Dickens proposed *Mr. Wells*, of Norwich, as a fit person to fill the vacant office of Vice-President.

Professor Simonds, in seconding the nomination, bore testimony to the qualifications of *Mr. Wells*, who (he said) deservedly ranked high in his profession, and could at all times give a sound opinion upon any matter connected with the interests of the profession.

The Council then proceeded to ballot, and—

The Chairman declared *Mr. Wells* to be unanimously elected, and said they could not have selected a better man.

THE TREASURER'S REPORT

was next read by Mr. Henderson. He stated that the balance in hand, at the Annual General Meeting in May last, was £304 17s. 4d., and the receipts since that time £298 14s., making a total of £603 11s. 4d.; the expenditure had been £210 7s. 8d., leaving a balance in hand of £393 3s. 8d.

The Secretary said, that if no extraordinary expenses occurred, £93 would be sufficient for the remainder of the year, and there would be, at the end of that period, a balance of £300.

INVESTMENT OF FUNDS.

Professor Simonds then moved that the sum of £300 be at once invested in the Funds.

Mr. Morton said it was a question of policy, first, whether in the present state of monetary affairs the money should be invested at all; and, secondly, whether so large a sum should be so applied. He was favorable to the investing of money, as it would form a nucleus which would go on adding to itself; but as the expenses depended so much upon contingencies, and it would not look well for a public body to be selling out immediately after buying in, he would suggest that £200 or £250 only be invested.

Mr. Henderson and *Mr. Braby* thought it should be decided first in whose names the money should be invested. It could not be in the name of the Royal College of Veterinary Surgeons.

Mr. Cherry, Sen., held that it should first be determined whether or not the money was to be invested.

Professor Simonds then moved that 200*l.* be invested.

In answer to a question from the Secretary,

Professor Simonds said, this was only to be regarded as a notice of motion.

The Secretary said, he had entered on the minutes, that it would be brought forward at the next Meeting, and trustees appointed.

REGISTRAR'S REPORT.

Twenty-seven members had been admitted since the publication of the Register and ten deaths reported. The deaths were—

J. R. Atcherley, Bridgenorth.
S. Forrest, Stirling.
P. Fry, Torrington.
G. Gosden, London.
I. Gooch, Swansthorpe.

J. Harvey, Bath.
J. Jamson, Tunthorp.
J. D. Peech, Pontefract.
J. J. Rogers, Exeter.
J. Turner, Canada.

Cheques were ordered for the current expenses of the Quarter.

Mr. Henderson, Mr. Braby, and the Secretary were named by the President as the Committee of Supervision; and the proceedings then terminated.

ALEX. HENDERSON
EDW. BRABY
E. J. GABRIEL.

DIPLOMAS GRANTED, MICHAELMAS, 1852.

THE following gentlemen have this year passed their Examination before the Board of Examiners appointed under the Royal Charter of Incorporation, and have received the Diploma of the Royal College of Veterinary Surgeons :

Joseph Ball, Manchester
 George Bentley, Grantham, Lincolnshire
 John Betts, Tittleshall, Norfolk
 John Bowman, Fassgate, York
 Jonathan Briggs, Selby, Yorkshire
 William Broughton, Woodhouse, Leeds
 John Callow, Lindfield, Sussex
 James Churchill, Colchester
 William Cleveland, Brampton, Suffolk
 Edward Darlington, London
 John Dixon, London
 John Fisher, Whitehaven, Cumberland
 William Hastings Farrow, London
 John Gamjee, London
 Thomas Edward Hobson, Narborough, Leicester
 John Hammond, Saxlingham Notts., Norfolk
 Edward Kelly, Dungarvon, Waterford
 Charles M'Mahon, Dublin
 John Robert Moxon, London
 Robert Walter Murray, Cork
 George Edwin Pearce, Camelford, Cornwall
 J. Bunn W. Skoulding, Wimondham, Norfolk
 John James Turner, Durham
 Jesse Osmond Vincent, Newbury, Berkshire
 Robert Stratton Wilson, Ashbourne, Derbyshire
 Henry Etridge Wilkinson, Gateshead-on-Lyne
 Joseph Woodger, London.

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LACERATION OF THE ŒSOPHAGUS IN A MARE.

By W. A. CARTWRIGHT, M.R.C.V.S., Whitchurch, Salop.

ON Thursday, the 19th of August, 1852, I was called in to attend a half-bred mare, fifteen hands high, the property of John Brown, Esq., surgeon of this town, that would not feed.

It appears, that about five o'clock the previous afternoon, the groom attempted to give her a diuretic ball, but failed to get but a part of it down. He says, that after he put the ball into the mouth *with his hand*, a good deal of coughing came on, which forced it each time back again, except the small portion mentioned.

Symptoms.—Will not eat or swallow anything of her own free will; and if she be drenched with a little water, she evinces a difficulty in swallowing, even a very small portion of it, and has symptoms of choking, drawing her head towards her breast and retching, with a spasmodic action of the neck, endeavouring to force anything out of the Œsophagus. When left alone and not interfered with, she rarely attempts vomiting. On carefully examining the throat and course of the Œsophagus, not the least obstruction or enlargement can be felt; nor can I feel anything on introducing my hand up the pharynx. Coughs now and then, but not often; respiration and pulse natural. There is a slight soreness about the throat, but she has not at all the symptoms of "sore throat" or cold. From the symptoms, one is almost led to believe that a portion of the ball is sticking either in the pharynx or in the Œsophagus; and as there are no violent symptoms calling for the introduction of the probang, I think it will be prudent to leave her alone for awhile, merely supplying her with liquid, which she may slop in and swallow.

From the 19th to Saturday the 21st, she continued in the same state, seeming in no pain except when retching and coughing occasionally, but which was not often. Pulse and

respiration perfectly free. This day I introduced a sheep probang, which I found did not pass so freely as I could wish, though at length it went down one third of the neck. When drenching her with a little gruel, it sets her to retch and vomit, and I fancy I can see some of it pass down the Œsophagus, and that afterwards it gurgles up and down as if it could not pass into the stomach; but of this latter I am not certain, as it may be merely spasm of the Œsophagus. Give her at intervals olive oil to lubricate the throat, and move the bowels. I believe some of this goes down.

21st to Tuesday the 24th.—I see very little difference in her aspect or symptoms, even from the first of her being taken ill; though of course she is growing weaker. Seeing no amendment, and believing that there was some obstruction in the Œsophagus or pharynx, I had her cast, so as to have her more steady, in order to introduce my hand into the latter, and a large probang down the former. I could not detect anything at the top of the gullet; I therefore tried the large probang, but could not push it scarcely past the pharynx. I then tried the small probang. Even this I could not get to pass without moving it quietly in every direction: in this manner I at length succeeded in passing it down as before.

I again tried several times with the larger one, but could not get it any further than before; finding, however, that some little blood issued from the nostrils, I was fearful of doing mischief, and so desisted, and got her on her legs again. Just before I liberated her from the hobbles, I poured some water into her mouth; some of which (if any) went down, though most of it came back again. Her mouth was a good deal injured by the balling iron. Give clysters of thick gruel to support her.

25th.—About the same. Attempted to give her some gruel by the mouth, but this produced the spasmodic retching as before. Is getting weaker, but not so much as one would expect. Is in very good condition yet. Continue clysters and gruel to lap in. Respiration perfectly calm. On raking her I find the fæces soft.

4 P.M. About the same. She rejects the water she drinks. I attempted to pass the small probang, but without avail. The mouth smells very offensively, probably from the injury sustained by the balling iron. Gargle it with chloride of soda, and blister all down the neck.

26th, Thursday.—On entering the stable she was pretty lively, and appeared very thirsty. I accordingly fetched her some water from the pump, portions of which she swallowed

with a good deal of difficulty, several times; though soon after, most of it returned through her nose and mouth.

27th, 9 A.M.—Drank some gruel, but not with the same avidity as yesterday. It came back as before. A little pus is discharged down the nostrils of an unhealthy character.

2 P.M.—Presented some water which she drank, but she immediately threw it back again. I then tried to pass a small long whalebone probang; but which did not pass above ten or twelve inches down the throat, and I could not get it any further.

I examined the part of the Œsophagus where I thought the probang reached to, but I could not detect the least enlargement or anything stopping there, nor of anything pointed coming through the sides.

28th, 9 A.M.—Sinking fast. Does not care for drinking but very little.

5 P.M.—She drank a little, but soon threw it back again. I then turned her round again with the intention of once more introducing the probang, but whilst I was stripping my sleeves up she fell headforemost into the channel, and I thought was dying; shortly after, however, she got up again, and I put her into a stall, and left her there in that state that left no doubt of her dying, which she did shortly after. The next morning I made a—

Post-mortem examination in the presence of Mr. Keay, veterinary surgeon of this town, the groom, and another person. On tracing the Œsophagus from the breast I found it was natural, until arriving towards the pharynx, when, for eight or ten inches, it was, at its upper part, of a much darker colour, and very much thickened, a mass, in fact, of decomposed muscle and cellular tissue, in the interior of which there was a cavity eight inches long: the opening into it commencing superiorly over the larynx, and proceeding into the muscular substance of the superior part of the Œsophagus. It had evidently been made with some sharp rough instrument. The other portion of the Œsophagus was normal.

Observations.—When I was called in to attend this mare, I had no doubt whatever but there was something wrong about the Œsophagus; but as I did not suspect such an injury, I was induced to believe there was obstruction of some sort about the fauces or Œsophagus, although I considered that the symptoms were very much modified, and were not at all of that violent nature they generally are when horses are choked; since, during the whole period she was ill, she never pawed, nor had those continuous violent attacks of spasmodic retchings as if wanting to vomit; neither was she

in apparent pain ; and as for her respiration, that was remarkably calm. I frequently examined the whole track of the Œsophagus, to see if there was any enlargement, but could never detect any.

Sometimes I imagined that a portion of sponge might be there, such as could not be detected by pressure. As the symptoms were not at all violent, I thought that if it was a portion of the ball lodging in the passage, the best plan would be, to allow her to have diluents to slop in, and leave her to nature for awhile. This I did for three days ; but at the expiration of that time, finding no amendment, I decided to try to introduce the probang. I accordingly took with me an excellent one, which I use for sheep and small animals. At first I could not introduce it at all ; but after a while I succeeded ; though I found it did not pass down the throat above eight or ten inches ; nor could I, with the force I felt inclined to use, push it any further. Shortly after, I introduced it again, and found I could pass it to any distance. Now that we know the cause, there is no doubt but that the probang would at times catch against the edge of the rupture, at others enter the false aperture, and at others the Œsophagus. On trying her with water or gruel, she would take two, three, or four gulps, and one was inclined to believe that part of it passed, from the appearance of the Œsophagus, into the stomach, and that the obstruction was in the thoracic portion. Most likely, a small portion did reach the stomach ; but the greater part, no doubt, stopped within the rupture, pharynx, and upper part of the Œsophagus, and which was immediately vomited back through the nostrils and mouth. On the sixth day I had her cast, and tried to introduce a probang, the bulb of which was $1\frac{3}{8}$ ths of an inch in diameter, which after death I noticed would have passed ; but I found I could not pass it further than the upper part of the Œsophagus ; and as some blood issued from the nostrils I desisted, and the probability is that it pressed against the edge of the rupture, or the interior of the swollen obstructed Œsophagus, thus causing the blood to flow. On the groom's return home, he had the impudence to assert to his master, that I had done all the mischief, and had ruptured her throat by using the probang. I have repeatedly seen horses choked by feeding greedily, and the symptoms have been very violent ; but in a short time they have become right again, by pouring oil and fluids down the throat, and by gentle manipulations : I have never had occasion but once, and that successfully, to pass the probang. See 'VETERINARIAN,' vol. II, p. 584. As the Œsophagus of the horse is considerably less than that of the cow, it is

highly important to Veterinarians to have by them various sized probangs, and such as are pretty elastic, so as to give the necessary curve about the larynx.

From this rare case we may learn that the symptoms of such an injury are not of that violent nature as when there is mechanical obstruction. This mare lived ten days without swallowing, I should think, more than a quart or two of water or gruel; and, I fancy, she gained little nourishment from the clysters, as they were frequently ejected soon after given. Now what produced the injury? The groom acknowledges that he had been giving a ball the day before unknown to his master; but he flatly denies having given it upon the end of a stick. It is very certain that, if it was not done by such means, it was *wilfully* done by some one.

ON THE CONFORMATION OF HORSES, WITH REFERENCE TO THEIR FEET AND TO SHOEING.

By J. T. HODGSON, V.S.

“Another important branch of study is that of the *exact sciences*. It is thus that we learn to compare and analyse, and then to expose the fallacies under which false reasoning lurks.”—‘The Hunterian Oration,’ by F. C. Skey, Esq., F.R.S.; ‘VETERINARIAN,’ 3d Series, No. 27, p. 163.

At birth, the lowest circumference of the foal's feet are alike, *i. e.* egg-shaped, or the geometrician's oval, the toe being the smallest end. In a few days the form begins to change, and in a few months the horn that formed the hoof at the coronet at birth is pushed forward, and has gradually grown down; the form is still further changed by the hoof diverging from the centre on one or both sides of the toe. The lowest circumference of the sensible feet have also undergone the same changes. The coffin bone of the fore part has gradually grown different in shape, it has also diverged from the centre on one or both sides of the toe.

Now, we cannot have this extension by growth without motion, and we have facts to prove that it is *concentric*, and not *eccentric*, for this divergence *by growth* continues till, in the adult, the shape becomes the *segments of a circle*.

The lowest circumference of the sensible foot and hoof are not in *the same plane*, or they would form concentric circles; besides, the periphery of the hoof is ever changing

with its growth and magnitude, in its relative position to that of the sensible foot, which is always in the same situation.

There is not the slightest disposition in the periphery of either to eccentric action, as pressure causes the upper surface of the declined cylinder *to shelve from within outwards*, and the lower surface to be pressed *upwards and inwards*. As the coffin bone diverges by growth, one or both the heels of the bone are, in consequence of the pressure, in heavy horses, absorbed, so that its periphery does not, as with coffin bones of lighter horses, whose feet have been preserved, or in hind coffin bones, rest throughout on a plane, as noticed by the late Mr. W. Goodwin, and which occurs only in heavy horses.

I shall now make extracts from my own notes of the late Professor Coleman's lectures, to prove that *his theory was concentric expansion*. This differs essentially from eccentric expansion revived by Mr. B. Clark, *which is not the action of a horse's foot*. The late Professor said—

“The hoof, *in growing*, becomes *wider* than the shoe, and it is a common expression to say, the shoe has been ‘eating’ into the hoof. The disposition of the hoof is *to grow out* and become *wider*, the nails would confine it to the same *diameter*, but the disposition of the hoof *to grow* is greater than the power of resistance of nails, and this is the reason they are bent in proportion to the weight of the horse. The hoof expands in some degree notwithstanding the resistance of nails.” Here *the part where the hoof expands is distinctly stated*, and is quite at variance with the eccentric theory of widening from heel to toe, like a hinge shoe. Again, he said,—“Mr. B. Clark supposes contraction to be caused by nails being placed too near the heels; but in cart horses nails are often, from weakness of the crust at other parts, obliged to be placed near the heels, yet there is no contraction, for the pressure of weight overcomes the resistance of nails.” Now, we all know the part in which nails are driven is not the heels, but quarters and toe, and the expansion that thus overcomes the resistance of nails is *concentric*, being opposite, and not the widening of the heels from heel to toe, or eccentric action. Again, “It is the want of pressure to the frog that is the chief cause of contraction. The foot may be contracted from heel to heel, or from quarter to quarter, or from below upwards. When the sole is convex upwards, dry, hard, thick, and concave below, this happens to horses of light weight and low action, and these horses are so much disposed to contraction, that the best precautions will not sometimes prevent it; and there are other horses that the

worst shoeing that can possibly be would not produce contraction. In the 2d Hanoverian cavalry not one horse's foot was contracted; all were circular. The horses had high action, and this had been increased by habit and art, and the consequence was, it produced so much more pressure in the horny frog, which expands the cartilages and heels." Here the change is distinctly stated to arise from difference in the conformation of horses, habit, and art, and to be the result of *long growth*.

"Why should Hanoverian horses be exempt from contraction, as they are equally exposed to nails and other supposed causes? Because they put down the feet nearly in the place where they took them up. This forces down the sole oftener, for the shorter the distance before the body the feet are put down, the oftener weight is thrown upon the fore extremities, and consequently upon the frog and sole; here the power to contract is only equal to two, and the power to expand is equal to three, so he has no contraction: but if you have a horse of light weight before, and he goes near the ground, the influence of weight is only equal to two, and the occasional causes are equal to three, and he has contraction. If you even give the frog pressure and nail round the toe, you will have contraction, because the weight is not sufficient to counteract the occasional causes. I do not agree with Mr. B. Clark in opinion, that nails alone will do it; but where horses have light fore quarters and low action, and are exposed to slight exciting causes, lameness will occur from contraction. For other horses although exposed to all the causes, yet are not subject to lameness from contraction: such are dray-horses in London; so far from being equally subject to it, I have to see, what I never saw yet, lameness from contraction in dray-horses. Although the shoe is turned up at the heels, and the frog cut, the pressure and weight on the sole are such, that the frog still touches convex bodies, the foot being filled up with dirt: contraction does not occur in defiance of all these causes. No animal can have a disease without two circumstances,—the susceptibility of having disease, and the application of a cause.

"The predisposing causes are so great in light horses, that one existing cause is sufficient to produce lameness; so you may apply the causes of contraction two-fold to a dray-horse, yet, from want of susceptibility, he will not have lameness from contraction." What can be plainer? The late Professor never alluded to the subject of contraction without insisting on reference to conformation. Predisposition he considered sufficient explanation of its cause or non-existence. True he

said, "Every time a horse puts his foot upon the ground the hoof expands and the sole descends." But he has distinctly stated that the part where the hoof expands is opposite where the nails are usually put, and consequently the part of the sole that descends must be opposite, at its thinnest part; for he said,—

"The horny sole is *a powerful spring* to the horse. The small posterior bone, instead of conveying its weight to bones that are fixed, conveys it to two that have, from their attachments, the power of elongating for *that function* to be performed. Suppose the horny sole to be made a fixture, the insensible laminæ, though capable of ever so great an elongation, could not elongate even the breadth of a hair; it must therefore be *in proportion as the horny sole has the power of motion*. The foot, by pressure, is necessarily expanded, and occupies a larger space, the sole presses against the inside of the crust, and *these parts must give way*." *These parts* have been before distinctly stated to be on *either side the toe*, i. e. *quarters*, and not the heels; the heels would, however, widen also if not receiving pressure. Again he said:

"If, from any circumstance, the lower quarters of the hoof are kept fixed, the horny sole cannot descend, the coffin bone cannot descend, and the laminæ cannot elongate. Why should the sole be thinnest at the inside quarter? Because there is the greatest weight. The reason why nails should be kept from the heels is, that if they are placed near the heels, the *hoof* would not expand, and all the motions of the foot would be stopped." Here he did not say the heels, but the *hoof* would not expand, and refers to *the parts* he has before said did expand opposite nails. It is perfectly clear he did not mean eccentric expansion, of which he was known as an opponent, though some have read *heels*.

I consider the physiology of the foot of so much importance to the veterinary student, that I trust to your indulgence for insertion of these lengthy extracts.

To test the correctness of the late Professor's theory, I directed the farrier-major of the Body Guard to shoe several horses with pieces of old German flattened native cavalry shoes at the heels only, with three nails. I drove these horses for experiment about Calcutta, over made roads, for two years. The pieces always retained the situation exactly to which they had been applied, the shelving of the hoof not carrying them forward. If a tip or divided tip was applied in juxta-position to the heel-pieces, the shelving of the hoof separated these from the heel-pieces, and from each other.

I have in my possession nails taken from a low-heeled horse

by the farrier-major of the 11th Dragoons, that appear to have been worn by being subjected to this double action of the hoof, with which the late Professor Coleman was well acquainted; however much some may consider he knew little about shoeing, "muff" as he was, though those rogues shoeing-smiths considered him the Mufti. He said: "I have added to the shoe what I consider is a great improvement, that is, clips at the heels, to counteract this disposition to contraction when pressed inwards." When pressed upwards by weight, he knew he could only obviate it by entirely taking off the pressure of weight.*

Mr. Whitworth, of Manchester, also claims to have solved a mechanical difficulty, long felt by the scientific world, and often announced as accomplished, but never hitherto successfully. He exhibits a machine which it can be ascertained by the touch measures the 250,000th part of an inch, and which it is believed may be made to measure a millionth part of an inch. It would be very difficult, indeed, to measure the *motion of growth*, unless Mr. Whitworth's machine, shown at the Great Exhibition, is available for this purpose. Some veterinarian at Manchester might have the goodness to ascertain this.

I can admit of *no other motion*, nor can I believe the late Professor Coleman meant any other; for, *when any other is visible, as in the application to the letter of Mr. Reeves's narrow shoe*, it is only in that state of the hoof, when the sole, "which is a powerful spring to the horse," is diminished in substance; for when the hoof is of its *proper magnitude of surface and volume*, "and by volume we do not take into account its figure," *no descent of the sole* could happen; but shelving of crust would go on by growth, and there is permanent descent of the coffin bone and sole. According to the rigour of geometrical reasoning and *nature*, not the practices of the forge, Mr. Gloag is, I believe, perfectly correct in his physiology, that *there is no descent of the sole or expansion of the crust but that which happens from gradual growth*. As a physiologist, I am not bound to admit any thing as a test of expansion or non-expansion, in *half a hoof*, or that occurs in the practices of shoeing of any country, I can only consider the foot in its natural state of full proportion. More than a quarter of a century since I stated, in p. 7, in my pamphlet on 'The Foot,' that the action of the horse's foot could be solved by a piece of pasteboard. (*Vide Propo-*

* *Vide 'VETERINARIAN' for February, p. 89. M. Perrier's 'Theory on the Elasticity of the Foot,' which is the late Professor Coleman's theory, as shown by his lectures and practices of shoeing.*

sition VII, 3d Book Dr. Lardner's 'Elements of Euclid.')

"A circular piece of pasteboard, divided a little beyond the centre so as to leave a triangular space, which render contracted to make it concave by supporting it with your fingers; then consider, *no expansion can happen but by growth of shelving, which could not happen but by equal descent of the sole opposite.*" Remove the support of your fingers at points of the diagram that represent the heels, and the crown of the arch will come down flat, producing eccentric motion, or that *ruinous expansion* which happens in heavy horses, described so ably by the late Professor Coleman, who was *an opponent of this very eccentric action*. Now, I leave it to the geometrical knowledge of Mr. Reeve, to the knowledge and perspicacity of Mr. Percivall, to put this matter fairly before the profession. Elongate, the state of being stretched; this must be understood in this sense, and not to lengthen, as the direction in which it happens was proved by Mr. Gloag's experiment, No. 9.

CONTRIBUTIONS TO VETERINARY MEDICINE.

By WILLIAM GAVIN, M.R.C.V.S., Malton, York.

Phthisis Pulmonalis.

THIS case first came under my notice on the 2d of February of this year, and occurred in a black cow five years old. She had not previously been ill that the owner was aware of. I found her labouring under typhus, with cough and unsound lungs; but these last had existed for a long time: she recovered her usual health in a little time, and I did not see her again until the 13th of May, when she had another attack. At this time she gave no milk, being in calf, and had a very precarious appetite. Her hind legs and hoofs were mostly perfectly cold; once or twice they were filled and hot. In a fortnight's time her general health improved; but now, the hoofs of the hind feet began to loosen and come off one by one, the right ones first, that leg for some time being nearly always very cold, but the left foot becoming the worst. The right began to recover.

On June the 22d there was tumefaction of the right coronet, ulceration proceeding slowly in the effort to separate the last phalanges, which were dead. They have already come off the other leg, the line of separation in which is half

way between the pastern and hock; all below it is cold and black. Lately the cow has eaten well; she has now begun to fail in her appetite.

29th.—All the phalanges, with the sesamoid bones, have come off the right leg. Ulceration is going on round the middle of the metatarsal bone. The pedal bones of the left leg must come off soon.

April 4th.—Was shot this date.

Post-mortem.—The anterior lobe of both lungs is full of continuous abscesses, of the size of a pigeon's egg, mostly containing white thick pus. The edges of some of the other portions show evidences of the same slow changes beginning and going on. The central and upper parts of the lungs are the most healthy. The serous membranes in the chest were intact. The heart large. I did not see the contents of the abdomen.

At first sight, it might appear that the above case had some connection with the vesicular epizootic. The reader find an excellent paper, by Mr. Tombs, in the last March Number of 'THE VETERINARIAN,' to which I refer him.

In my patient, instead of "granulations of new flesh" soon forming, they never formed at all, nor did the system ever evince the smallest disposition to repair the lesion. The death of the feet, &c., seemed to result from too little action instead of too much; and when the hoofs came off and exposed the bones, both laminated tissue and periosteum were dead. Had one foot alone been affected, I would have tried amputation. The grunting, also, was very deep, and the mouth not affected, yet it was not a case of pleuro-pneumonia. Will Mr. Tombs be so good as to explain, if the sentence in his paper, "leaving the pedal and coronary bones bare," means the periosteum was dead?—because in my own case, the death of this tissue destroyed all hope of new hoofs.

To me it appeared more like a case of senile gangrene in the human subject than any thing else, complicated with phthisis of long standing.

September 8th, 1850.

Vomition.

This occurred in a bay mare, belonging to Messrs. Bartliff and Hartley, surgeons, which had been out at grass all night. I found her very sick, cold, and with the mucous membranes much injected. She brings her four feet together, arches

the back and neck, draws the head in towards the chest, and opens her mouth, the abdominal muscles keeping up prolonged pressure on their contents. A greenish chymous fluid is quietly ejected from the mouth and nostrils, but not by any sudden retching or gulping. I considered the case one of indigestion, and gave a little Ammon. Arom. Comp., and afterwards Hydrarg. cum Cretâ, followed by a mild laxative. She was well again in two or three days; but subsequently had frequent attacks of indigestion, being a greedy feeder, although this was the only time she had vomited.

Mr. Hartley told me that a bay mare, which I perfectly well remember (1847), was frequently in the habit of vomiting, and assumed the same position under the act as that I have described. The only other case I know of, was one witnessed by Mr. J. T. Lee, M.R.C.V.S. (now in London): it belonged to a Mr. Ingram, a railway contractor.

In reading your very interesting review of Mr. Gamgee's 'Inquiry,' the impossibility of reproducing all the circumstances necessary for obtaining a satisfactory experiment, struck me forcibly. For instance, in the living animal pressure is exerted on every part of the external surface of the stomach. This was very far from being the case in the experiments narrated. The pressure received from the surface of the table and superimposed board, would be equally divided over the interior surface of the stomach, because fluids press equally in every direction. This will be plainer seen by reversing the experiment, and considering how easily the stomach may be ruptured by pumping water *into* it. Again, there is every reason to believe the sphincter at the cardiac orifice, to be under a *special nervous control*; otherwise, why should we have such a well-defined circular band of muscular fibres there? This sphincter, by contraction, is clearly a mechanical obstacle, and the contraction seems to be regulated by the nervous system of the animal. This fact alone makes the extra-corporeal experiments useless.

I am inclined to think, Mr. Gamgee underrates the importance of the part, the state or condition of the stomach, plays in the causation of vomition. In the case I witnessed, the animal was a voracious eater, and constantly suffering from indigestion. In the case reported to me by Mr. Hartley, I personally knew her also to be worse than the other. For the third case, I refer the reader to Mr. Lee. In that, reported by Mons. Sanson, in last month's Journal, the stomach was diseased, and also in some more of the cases reported in 'THE VETERINARIAN;' and I have no doubt, if Veterinarians would be kind enough to record the cases they have seen, two things would be made out:—

1st. A greater frequency of the occurrence of the phenomenon than is generally supposed; and, 2dly, disorder or disease of the stomach in connection therewith.

Strange as it may seem, this is borne out by the very thing Mr. Gamgee has adduced against it, viz., sea-sickness. The primary cause of this unpleasant state I presume to be indefiniteness of motion, *i. e.*, a motion unusual to the muscles and the department of the nervous system ruling them. In the case of a swing, the tendency to sickness is produced by the centrifugal force withdrawing or checking the supply of blood to the head. In swimming, cramp is a result of a strange or unusual action of the muscles, and not of the cold. As the tendency to cramp becomes less with the increased frequency of the exercise, so the tendency to sea-sickness, and a kind of cramp producing vomition, decrease on becoming accustomed to the motion of a vessel. On land (the result of constant practice) a definite commission by the nervous system, or the will to the muscles, is followed by a definite result, viz., progression, retrogression, &c.; but on board a rolling ship, the will is able to produce no definite motion at all,—hence irritation and then sea-sickness. All is vague.

Some psychologists have attributed it to a sense of insecurity; but most sea-sick people are so when they feel themselves perfectly secure. The state of the stomach at the time plays a considerable part in the induction of the sickness. That a state of repletion tends rapidly to induce it, I have frequently witnessed; and immunity from it, the result of the opposite state, I have as often experienced in my own person, and seen the exemption in others. To enlarge, it is quite in a passenger's option whether he be sick or not. The conditions to be fulfilled to secure immunity are, a hot stimulant, eschewing all attempts to think or speak, and going to bed, and thence to sleep.

Mr. Gamgee considers the fact of vomition occurring or continuing when or after the stomach is empty, as proof of a nervous cause alone. He overlooks the fact of there being a copious excretion of very acid gastric juice, and therefore very irritating. Under the circumstances, the wonder would be that vomition did *not* occur.

I have not the details of M. Magendie's experiment; but if he first produced nausea through the agency of the *dog's* stomach, and then substituted a *pig's*, the experiment to me appears inconclusive. The first step in such an experiment ought to be, the change of the stomachs. Vomition sometimes occurs in the human subject through sympathy; but it

appears hardly fair to expect so much from the horse, considering his nervous organisation and position in the animated scale.

I was surprised to see, from the Editor's quotation of Professor Coleman's Lectures, the opinion the latter gentleman entertained of tartar emetic. It is a medicament generally, I believe, held in high esteem. Yet, for my own part, I have never been able to trace the slightest good to its agency, and I finally abandoned it as useless. Mr. Gamgee's own experiments would not seem to recommend it. In regard to the deductions to be drawn from these very meritorious experiments, it appears to me, more reasonable to conclude that tartar emetic has little or no influence on the horse rather than that the horse rarely vomits, because tartar emetic does not make him do so. Goats will consume tobacco, sufficient in quantity to poison many horses, without inconvenience. We may by and bye find out something possessing the power of making the horse vomit; yet I do not myself see the necessity for the horse possessing the power of vomition to the same extent as some other animals do, his habits, structure, &c. considered. The Editor's explanation seems to me to be the most conclusive one we possess at present, apparently hinting at a reversed action of the stomach. Thus in health the cardia is closed, the pylorus open; in disease the cardia is open and the pylorus closed. It being natural for one of them to be closed, it is only having the power of selection under the guidance of the proper power. It is pretty clear, *unless we have pyloric obstruction in some way, we cannot have vomition*, and also, that, when it becomes necessary, the obstruction sometimes takes place.

A portion of the phenomena ascribed in M. Sanson's case is rather singular, differing from what I observed in my own case, viz., that the head and neck were protruded. Now, in the case which I saw, the neck was *arched* and the head drawn in. On asking Mr. Hartley to describe the positions assumed by the head and neck in the mare he so frequently saw vomit, he gave the same exactly as those I have described.

Mr. Hurford will accept my thanks for his hint regarding *camphor*. I cannot say positively that counter-irritation does good in the disease; indeed, in the case of the colt I described, it certainly did harm. The disease seems to be accompanied by conditions rendering it an exception to the generally good rule of counter-irritations. We need all the light we can get on the matter.

Mr. Hurford's method of castration is new to me, but appears to be very excellent, inasmuch as there is no bruise, and nothing is so likely to set up nervous irritation as a bruised nerve. I have no doubt in time it will be proved to be the best method of all, should the profession give it an extended trial.

I send you with this Mr. Editor, a *York Herald*, illustrating the development of a wonderful practitioner. The mystery to me is, why he has remained so long in embryo. Every veterinarian will agree with me in saying, it was impossible for this groom to have known, what the disease really was, what the constitution of the medicaments he administered was, and what the action of his medicines was. This being granted, it necessarily follows that this new-born transcendent genius treated a disease he knew nothing about with remedies he knew nothing about, to produce an effect, but of what sort he was also ignorant; and the next greatest marvel to his own astonishing precocity, appears to be, the recovery of the animal. By my publishing the case, the "eminent veterinary-surgeon" will have an opportunity of explaining it. It seems to show the importance of the "Doubtful Case" contributed by a Veterinary-Student in a recent number.

This country, like everywhere else, possesses some of the species described above, though on the whole I think hardly quite so clever. The last I had to do with was attending an exhausted animal who had been treated for indigestion in reality, with copious venesection and equally copious doses of soot and ale. (These veterinary Sangrados are generally very sanguinary.) I suggested the chimney-sweep as a proper person to wait on the patient!

About a year ago, a small farmer near here had a cow taken ill. A resident quack diagnosed a tuberos obstruction in the œsophagus. Down went a rope's end, (which might have been usefully employed in another way,) and some hours found the patient worse. A Mr. Walker, two and a half degrees better than his predecessor, condemned the latter for rupturing the œsophagus, and could only prevent a fatal inflammation by prescribing death on the spot. This was troublesome; so on re-examination it was found the patient would be able to travel a mile to be killed. The way lay by the river side, and the patient, not liking her company, jumped in, and swam two miles down the stream to ultimately escape and recover.

I was called to a case last year this Walker had been

treating unsuccessfully, (one of irritation of the brain.) Amongst other things, I negatived venesection in that particular instance; on returning half an hour after, the enemy had stormed the castle in my absence, principally with abuse, had bled the victim, and made a body of it, (a dead one I mean.) That small portion of experience cost the owner £12.

Another highly talented man, a Mr. Beale, cured a mare and foal of the mange, on the faith of which she went to work amongst a small farmer's horses. A short while after, the "cured" animal had hardly a hair on its body. I had to treat *it*, as well as *all* the horses belonging to the farmer. It proved a considerable loss to him, that being a busy time.

We have the prototype of Mr. Wallace also, one John Thomas, Esq., who cures pleuro-pneumonia, and a few other *simple* diseases; amongst others, lockjaw. I saw a patient of his, said to labour under the latter disease. The mare had received a kick on the lower jaw, which produced a very effectual closure of the mouth for some time. Yet this was another wonderful cure! It would be needless to multiply instances; yet when these sort of people publish their triumphs over the veterinary profession in the newspapers, veterinarians will only do right in making public a few of their mistakes as a sort of set-off.

I should be very far from objecting to any one possessing the power of doing good, exercising it; but the case is very different with these quacks and empirics, who, provided they they can gain a few shillings, care nothing how much an animal suffers, or his owner loses!

. The subjoined is the "wonderful practitioner's" case adverted to by Mr. Gavin:—

Accident to a Mare. Singular Cure.—Mr. T. Wilkinson, of Maunby, had a mare which fell into a ditch, and was so much bruised and injured that she became quite paralysed and unable to get up. One of the most eminent veterinary surgeons in the neighbourhood was called in, who pronounced the case "hopeless," and left her, advising her to be shot. Mr. John Cussons, groom to Mrs. Walker, of Maunby Hall, who happened to be standing, by had the mare slung, and administered such medicines as he thought suitable to the case, and *in a few days performed one of the most surprising cures on record.* (*York Herald.*)—[HUMBUG, ED. VET.]

GREEN SCOUR IN LAMBS.

I was sent for, a short time ago, to attend a flock of lambs (ninety-five in number,) belonging to Mr. R. Balsdon, farmer, residing a mile and a half from Bideford; on my arrival, I ascertained that they had already experienced the loss of ten lambs, having imprudently neglected to call in veterinary aid; two also had died the day I arrived. I immediately proceeded with an *inspectio cadaveris*, when the following abnormal appearances were observable:—the stomach was in an exceeding state of plenitude, the contents being clover; the serous covering of the stomach injected; the small intestines contained some fluid of a bilious character; there was also fluid in the large intestines, tenacious, and of a greenish colour. The mucous lining of the intestines was inflamed, from the cardiac orifice to the anus, especially that of the stomach; the kidneys and liver appeared healthy, with the exception that the latter was slightly larger than normal. The gall bladder did not contain much bile, but when a little pressure was applied to it, it was freely transmitted into the duodenum; the urinary bladder contained about one pint of fluid. The thorax having then been laid open, purple spots were perceptible on the lungs, containing blood in a semi-coagulated state; other parts of the structure belonging to the lungs appeared inflated, (emphysematous.) I then proceeded to examine the other lambs. Twenty of them were lying in different parts of the field, their heads protruded, disinclined to rise; when standing their noses were in close proximity with the ground, ears pendulous, eyes sunken, pulse 75 to 80, small and thready. I ordered them into the yard, with the intention of administering medicine, when they evinced a great desire for water, rushing towards the trough, and drinking with eagerness: one trying to satiate the thirst, dropped, and immediately expired; another being attended with a slight cough. I gave an aperient to the others affected, and ordered them to be housed, at the same time giving them some old hay. Visited them the following morning; two more had died, the medicine had the desired effect on the others. I then prescribed tonics, and removal to the oldest pasture on the farm, and am happy to state they rapidly became convalescent.

A YOUNG PRACTITIONER.

[** The above reached us in time only to admit of hurried insertion, without “comment.”—ED. VET.]

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

ON THE BREEDS OF THE HORSES OF BELGIUM; AND ON THE HORSE ESTABLISHMENTS OF EUROPE. By DOU-TERLUIGNE, Senior, late a Veterinary Officer of the Belgian Army, Veterinary Surgeon to His Majesty King Leopold, to the Government, and to His Highness the Duc d'Arenberg. *Brussels*, 1850; post 8vo, pp. 160.

THE above work, written in the French language, presents us, at setting out, with an historical sketch of the influence various national befallments have had on the breeds of European horses generally, such as the migrations and invasions of the northern tribes, and in particular on the horses of Belgium; a sketch which is subsequently filled in by indications of the amelioration the latter have in later times derived from the invasions of the inhabitants of the East and South, not to omit the crusades consequent on attacks from the Mahometans. The frequent intercourse our (Belgic) ancestors had with the Arabians, Moors, Persians, Saracens, and *Kurdes*, taken advantage of by judicious intermixture of breeds, &c., will account for this improvement in our kind of horse; with the Arabians indeed especially, of which choice breed, *Kocklani*, even Mahomet himself, has taken notice in his Koran, calling them, on account of their speed, the winged horses, (*les ailés*.) To the introduction of the *Kocklani* breed it is that the English are indebted for their admirable indigenous stock—which, as our readers will remember, was threatened, no very long time ago, with competition from the Pacha's stud in Egypt—a breed so famous in the calendar equine genealogy that even the sovereigns and princes of Europe have not had their pedigrees watched and chronicled with more care: reckoning, as the horses of *Kocklani* do, three thousand years of pure or thorough blood, without the smallest

drop of stained or impure blood detracting from this noble line of filiation, from the stud of Solomon, son of David, down even to the present day. And so particular are the owners of such horses about their pedigree, that the precious document is kept suspended in a satchel around the animal's neck, being in form as follows:—

“We, the undersigned, declare before the Supreme Being, attest, affirm, and swear by destiny and our girdles, that the mare aged and marked is a descendant of the third degree, in a direct line, from a noble and illustrious ancestry, her dam being of the breed of and her sire of the breed of; and she uniting in herself all the qualities of those noble creatures, of which the prophet has said—‘Their breast is a chest of gold, and their thighs are a throne of honour.’ In consideration of the testimony of our predecessors, we repeat our averment that the mare in question is as pure and stainless in her blood as milk, and we pledge our word that she is famed for her great speed, and her habit of enduring fatigues, hunger, and thirst. From our own knowledge, as well as from what we have learnt, it is that we have given this testimony. Beyond this, God can best answer.”

In the Koran, the creation of the horse is treated by Mahomet with the highest lyric inspiration:—

“When God was about to create the horse, he called to him the south wind, and said:—‘I will out of thee make a new being: cease to be impalpable and take on a substantial form!’

“The wind obeys. God then seized a handful of the matter become solid, and breathed into it the breath of life.

“After this manner was the horse created, to whom the Lord said:—‘Thou shalt be to man a source of pleasure and wealth; he shall ride upon thy back, and shall elevate thee above all other animals.’”

From these curious *morceaux*, extracted out of the sketch given by our author of the early history of the horse, as relates to his own country, we shall—skipping a score pages or so—pass to the section treating of our country, or rather—

Of the English, considered as Producers and Improvers of the Breeds of Horses.

“At the time that Philip II, King of Spain, launched the famed expedition, known as the Invincible Armada, against our queen, Elizabeth, she was unable to muster more than 2000 horses, of all ages, breeds, and sizes. Only contrast this with England’s present horse condition! No doubt this scarcity became a stimulant to horse-breeding; though it was not until her successor’s (James I’s) time, that the Arabian stallions were introduced: an introduction that has been succeeded by a progressive improvement which has continued up to the present age. In Belgium and France, people are too much in the habit of trusting to Government for improvement; whereas the English, on the contrary, supersede all state influence by a spirit of association. *Aide-toi, Dieu t’aidera!* is the old axiom so successfully put in practice by the British.

“Four descriptions of horses carry the lead in Britain:—the race-horse, the hunter, the troop-horse, and the harness-horse. The race-horse is the product of cross between the mare indigenous to the country and the stallion of the East, Arabian, Barb, Persian, or Turk. And this (the thoroughbred horse) becomes a source of profit in two ways—through *racing* and through *breeding*.”

Such are passages, taken *passim*, out of the section of the work open before us, which are followed by brief accounts of the different racing stations, Newmarket, Epsom, Ascot, &c., after which come miniature portraits of the racer, the hunter, &c., individually: to which are subjoined these compliments to our nation:—

“The English, through their indefatigable activity, are constantly contriving how they can make the best use of their time (*utiliser le temps*). And above all, they endeavour to effect this by shortening distances, between place and place, so as to accomplish journeys in less time. Hence, the care and choice they bestow upon their public equipages, the excellence and elegance of their harness, the comfort even of their (public) carriages, to which there is no approach on the continent. In fact, description fails to convey notions of the results obtained in England through attention to breeding, crossing, &c. And as for sacrifices of money and time,

when a push is required to be made, nothing I can say will give any idea of it."

Not less true than creditable to our nation is the fact:—

"What is very remarkable, whenever colts or fillies from other countries are imported into England, from the modification and improvement they undergo while there, they return to their native soil more like English horses. They become stronger, more sinewy, more let down (*tonquins*), which is all dependent upon the manner in which they are governed and fed. The excellence of the meadow hay, together with the corn-bin, exercise a decisive influence on their modifications. While but a year old, they are allowed a peck of oats a day; straw being kept from them as in-nutritious; while hay of superior quality is allowed them in abundance. By such means has a country, which in the year 1588 could scarcely muster two regiments of cavalry, reached, in the year 1850, to the possession of nearly two million horses. Added to which, the studs of all the civilised nations of the world (Arabia excepted), are at this moment tributary for their horses to English breeders."

To say the work we have culled so freely from, and taken no little pains with, so far as we have yet turned over its leaves, is, to Veterinarians and horsemen, an entertaining one, would be to pass an insufficient panegyric upon its author: it is more than entertaining—it is historically and professionally edifying; and withal, highly complimentary to the horse community of the British nation. Nor do we think that its author, M. Douterluigne, has stretched his praise of us, as a horse-cultivating people, beyond the limits of fact and truth; since, at the present hour, with one single exception, which, perhaps, we ought to make in regard to trotting to the Americans, we do not believe that we have for speed, utility, and beauty in horse flesh, a rival on the face of the earth. With these brief remarks we, for the present, take our leave of Douterluigne: yet we do so unwillingly, after having spent so pleasant an hour as we have in his company. Nor should we, indeed, take leave here, were it not that our space refuses admission to so much as remains behind as would still tempt us to continue our extracts. Our readers will enter at once into our feeling on this head

when we inform them that there yet remains to be perused, besides other subjects, 'Un Aperçu Historique sur la Médecine Vétérinaire,' 'Souvenirs d'Angleterre,' 'La Médecine Vétérinaire en Espagne,' &c. no ordinarily attractive baits to us, nor indeed such as we relinquish all hope of being still able, one day, to test the virtue of.

VETERINARY JURISPRUDENCE.

LEICESTER ASSIZES, SATURDAY, JULY 24.

(Before Mr. Justice Coleridge.)

WILMOT v. LEES.

COUNSEL for plaintiff, Sergeant Miller and Mr. Field; attorney, Mr. Tweed. Counsel for defendant, Mr. Macaulay, Q.C., and Mr. Boden; attorney, Messrs. Newton and Gilly, of Retford.

This was an action to recover £27 odd from defendant, alleged to be owing to plaintiff upon a horse case.

Mr. Sergeant Miller stated the case to the jury. It appeared that plaintiff, who is a horse-dealer, residing in Lincolnshire, bought a brown horse of defendant for £38. The horse was warranted, and afterwards proved to be unsound, having, it was stated, affection of the nerves in the "lumbar" region, which, in non-professional terms, means, a disease of the nerves in the loins. When the unsoundness was discovered, the horse was sold again in Lincoln market for £23, and the action was brought for the difference, and £10 besides, which plaintiff said he was entitled to, because he had not the opportunity of selling the horse at a fair where prices were high.

Mr. Wilmot (the plaintiff) was the first witness, and he stated the circumstances under which the sale took place, and the subsequent sale in dispute.

A veterinary surgeon and a wine merchant described the state of the horse; and then

John Jeykle, a veterinary surgeon, who had had extensive practice for the last five years, was called. He stated as follows:—In the month of April he was called in by plaintiff to look at a brown horse, and found it suffering under an affection of the large nerves which take their origin from the spinal marrow as it passes through the loins. He discovered this first by the peculiarity of the animal's action in the stall,

when he turned him over. There was a peculiar jerking upwards, and more particularly of the near hind limb. There was also a crossing of the hind legs when he moved, and his quarter would sometimes longe over twelve or eighteen inches to the opposite side. In trotting straight-forwards, he did not give evidence of anything being wrong. In turning short while trotting, he would sometimes stagger back to one side or the other, this evidently arising from want of proper nervous connection between the hind quarter and the brain. There was also a slight wasting of the muscle of the near hind limb, but this was not very clearly marked, and on that account he took no notice of it. He saw him again two days ago, and he found the wasting of the muscle of the thigh very marked. When he passed his hand across the course of the spine the nearer he approached the loins the greater was the tenderness of the horse to the pressure of the hand. The disease was in slow and gradual progress. On the whole, from both his examinations, he concluded the horse was unsound in April last. The present condition of the horse quite confirmed the opinion he formed in April. In his judgment, at the April fair the horse, if it had not been unsound, would have been worth not less than £40. By Mr. Macaulay: Knew from Mr. Wilmot that he had given £38 for it. When a horse had a paralysed nerve, he considered it sufficient to describe it as a "lumbar" affection. If the affection was situated higher up the back, he should describe it as a "dorsal" affection. A disease of the head he should describe as an affection of the head. A "lumbar" affection was an affection within the loins. Paralysis of the nerve might be attended with either decreased or increased tenderness. Inflammatory action on the nerve would cause the increased tenderness. By Sergeant Miller: Knew an affection called the stringhalt, which was usually *an affection of the nerves of the thigh*. Would never give a certificate of the soundness of a horse with the "stringhalt." He was quite satisfied the horse in question had not the "stringhalt." Had frequently in his practice had cases of "lumbar" affection.

Alexander Henderson, a veterinary surgeon in London, had been in practice forty years. Had examined a brown horse shown him by Mr. Wilmot. He examined him in London on Tuesday morning, and he found he dragged his near hind leg, and that there was a spasmodic contraction of the muscles. He passed his hand down the back from the shoulder to the croup, and found him very tender. He examined the thigh, and found a wasting of the muscle. He

considered the cause of what he observed was an affection of the nerves, proceeding from the spine, which had been of some duration. That was proved to him by the wasting of the muscles, but it was not possible for him to say of how long duration; but the wasting of the muscles would be a work of time. The horse had rather a lassitude in his gait, and he cut his legs, and very likely this had reference to the disease. The horse displayed the disease more particularly in turning round, and in turning over in his stable. The disease was, from its nature, perceptible in different degrees at different times. The cracking of a whip might make the disease more or less evident. It was possible for the horse to be ridden for a time without the disease showing itself. The disease he had spoken of interfered with the working condition of the horse, and, in his opinion, rendered him unsound. The horse had not the "string-halt." By Mr. Macaulay: A disease of this kind frequently came on after influenza or other illness. A wrench or a strain might produce the disease. He saw no reason why the disease he had seen in the horse should not have taken its origin so late as the 20th of April. The horse was not lame, nor was a horse having string-halt. The string-halt was a movement rather proceeding from a spasmodic action. He considered string-halt unsoundness, and that it would interfere with the speed of a horse.

Mr. William Burley, of Leicester, veterinary surgeon, had been in practice about thirty years, and had examined the horse. He found, on moving him sideways, that he failed or dropped on the near side. He had him out of the stable, and found he was evidently labouring under a paralysis of the muscles of the near side, which resulted from some injury of the nervous system connected with the loins. He considered the disease had been of some weeks' or some months' standing. On placing the hind legs both level, he found the muscles of the left side diminished. The horse was not sound. He had had many cases of impairment of the action of the hind quarters, from pressure on the spinal column, one of which resulted in lockjaw, and proceeded from a tumour between the kidneys. In the present case, he had no doubt the imperfections in the horse arose from an affection in the "lumbar" region. Such diseases might escape observation for some time. By Mr. Macaulay: Mr. Wilmot was present when he examined the horse. Never knew Mr. Wilmot before. The tenderness on the back proceeded from inflammation of the muscles.

George Smith, an auctioneer from Lincoln, sold the horse

at Lincoln on the 30th of April, and he fetched £23. He was bought by Mr. Burton, of Retford. The expenses of printing and selling were 16s. 6*d*.

This was the plaintiff's case.

Mr. Macaulay addressed the jury for the defence, and said a more tricky and dishonest case never came into a court, and having concluded a long address, called

Mr. James Watts Lees, the nephew of the defendant. He deposed to buying the horse in August last, and keeping him till the 10th of April. He bought him of George Burton, for £22, and had a warranty with him. He sold him to plaintiff, at Retford, on the 10th of April, it being market-day. Wilmot said, he had been to defendant's house, and had seen the horse. He said he had been at his uncle's house, and had had the horse out, and seen him. When the horse was sold, it was agreed he should be delivered at Durham, and, on the Wednesday following, it was delivered to plaintiff at that place. Plaintiff examined the horse again, and he appeared satisfied with the horse. The horse had been doing all sorts of farming work while he had him. He had also been running in a light market-cart, and was used as a saddle horse. He never showed any symptoms of unsoundness, and he was quite sound at the time he sold him. On the 17th of April he received a letter from Mr. Wilmot about the horse being unsound, and on the 18th he saw Wilmot at Lincoln, and told him if he was unsound, he would take him again, and return the money, but he would have a veterinary surgeon's certificate, and should bring a surgeon the following morning. Plaintiff said, "very well;" but when he took Mr. Talbot, veterinary surgeon, of Tuxford, Mr. Wilmot refused to let the horse come out of the stable. Wilmot said the horse had got the string-halt. Witness was present when the horse was afterwards sold at Lincoln, and it appeared to be sound. By Mr. Sergeant Miller: Mr. Wilmot did not say, when he bought the horse, that he thought he ran stale. Never valued the horse at more than £27 or £28, and he never was worth more than that. It was not proposed in Mr. Wilmot's stable to put a saddle on the horse. By Mr. Macaulay: Had not yet had any information as to what was the disease of the horse.

Thomas Watson Talbot, veterinary surgeon, of Tuxford, and a member of the college, deposed to going to Lincoln to look at the horse, and asked to be allowed to have a bridle on, and to see him run out. Mr. Wilmot said he should not, as he had already seen quite sufficient to convince him the horse was unsound. He moved the horse in

the stable, but observed nothing in the motion of the hind legs. He afterwards saw the horse, and examined him on the 1st of May. In turning over in the stable, he carefully lifted up one of his hind legs. When out of the stable there was none of that peculiar action. The action of the horse was very fair, and £25 was his full value, assuming him to be sound.

George Burton, a horse dealer, of Retford, sold the horse to the defendant last August. He bought the horse of Mr. Bushby, the same day, for £18, and received a warranty of soundness. He sold him for £22, and gave a warranty. After he sold him, he saw him twice or thrice in defendant's possession, and never saw any appearance of unsoundness. He never had any illness whilst he knew him. When the horse was sold in dispute, witness gave £23 for him, and there did not appear to be any unsoundness. He kept him fourteen days, and then sold him at Newark for £24, and then gave a written warranty with him. The horse had a trick in the stable, of lifting his hind legs higher than he did out of the stable, and that would probably be produced by the groom tapping the horse on his legs. By Sergeant Miller: Never taught his horses to dance over the pitchfork. Went to the sale in the same train with Mr. Lees, but did not talk to him about the horse. He sold the horse, the last time, at Market-street, near Dunstable. Had been convicted of felony.

Mr. Richard Rusby, butcher, of Wale, near Rotherham, deposed to selling the horse to Burton, at Retford, in August, 1851. He had bought the horse of Alfred Watts, of Edwinstow, at the 1850 October fair. Watts had gone to America. Witness bought the horse for a four-year-old, and he proved to be a five-year. During the time he had the horse, he was not ill. The work he did was plough, and driving to market. He never perceived any singular action in his hind legs. Witness gave £15 5s. for the horse. By Sergeant Miller: Witness's son generally attended the horse in the stable. He was at Leicester, and was subpoenaed by plaintiff's attorney.

James Kennedy, groom to Mr. Lees, said he was in Mr. Lees's service twelve months. Remembered his master buying the brown horse, and attended him regularly. He used to slip the bedding over when he called him over in the stable, and he "clipped" him over the fetlock with the fork, which made him clear the bedding. This kind of tuition got him into the habit of lifting his hind legs. During the time the horse was with his master he had no illness. He used to go in a waggon or cart, and nothing appeared to be the matter

with him. By Sergeant Miller: The horse used only to lift his feet when they were struck with the pitchfork. Never let his master see him do this.

Edward Grunner, a horse-breaker, of Retford, deposed to examining the horse when he was bought by Burton, at Retford. He rode the horse, and thought he went very well. He believed he was then a sound horse, and there was no unnatural action of the feet.

Francis Talbot, a veterinary surgeon from Whatton, near Bingham, said he saw the brown horse sold by Burton at Newark fair. He examined him in the stable and out of it, and found no appearance of unsoundness. He understood, at the time, that the horse was injured in his back, and had got the string-halt; but witness could not detect traces of any such affections. If a horse was labouring under a disease of the nerves of the back, very few would buy him at any price. If sound, he would be worth perhaps about £25. The horse was a sluggish, bad goer.

Henry Hutchinson, a veterinary surgeon from Retford, of seventeen years' practice, said he examined the horse after the sale at Lincoln, and he had perfect and proper action, though he moved him about in all forms. He was perfectly sound, and was worth about £25. If the horse had a disease of the nerves of the back, in the "lumbar" region, he would be unsound. When he examined the horse, it decidedly had not paralysis of the nerves of the back.

Mr. Richard Reynolds, another veterinary surgeon from Mansfield, of twenty-two years' practice, examined the horse, and, from the appearances he manifested, he did not think the nerves of his back were affected.

Henry Rusby, jun., was called by Mr. Macaulay, and it was proved that he was subpœnaed by the prosecutor's attorney. Mr. Macaulay declined to ask any questions; and Sergeant Miller asked a few questions about some statement the witness had made about the horse's leg. Nothing material was elicited. All he proved was, that the horse was too idle to lift his legs high enough.

Benjamin Tallents was called by Sergeant Miller. He said he was a butcher at Retford. The last witness told him that the horse used to use his legs very queerly when his father had him.

This was defendant's case.

Mr. Macaulay briefly replied upon the evidence given by Tallents, contending that he did not contradict the evidence given by the younger Rusby, but, on the contrary, rather strengthened his (Mr Macaulay's) case.

The learned Sergeant cleverly replied upon the whole case, and his lordship summed up the evidence in a very impartial manner, directing the jury, if they found for the plaintiff, to find only for the difference between the price given for the horse, and the sum for which he sold when in dispute.

The jury returned a verdict for the plaintiff for £17 6s. 6d., and, we hear, his lordship certified for costs to be carried with the verdict.—*Leicester Chronicle*, July 31, 1852.

Foreign Department.

CONGENITAL MALFORMATION OF THE ANUS.

By M. MATHIEU, V.S. at Aney-le-Franc (Yonne).

CONGENITAL anomalies of the anus have been little attended to by Veterinarians. This is not owing to the rarity of such cases, neither is it because they have not been frequently observed, but, I feel persuaded, from the neglect on the part of observers in not publishing their cases. Such *inertia* is unpardonable. It behoves us all to unite our efforts in progressing a science we are all, or ought all to be, devoted to. This is the only means of bringing forth meritorious monographs.

Congenital anomalies, *alias* malformation of the anus, are two :—

1. Opening of the rectum into the vagina.
2. Opening of the rectum into the bladder.

Before, however, we proceed, let it be understood, that it is my intention to preserve the name of *anus* to the terminating aperture of the rectum, be that situation wherever it may, and whatever be its structure.

Opening of the Rectum into the Vagina.

The case about to be related of this, was that of a female calf (only four days old), about to be sent to the butchers. The parents had no malformation. But this calf had neither tail nor proper anus; the anal opening being within the vagina, at about $\frac{4}{5}$ ths of an inch from the superior commissure of the vulva. When no fæces are passing this aperture is closed; possessing as it does the power of contractility, as may be perceived by the introduction of the finger.

Its *autopsy*—after slaughter—presented some remarkable peculiarities. The sacrum was not above half its usual length; not extending more than a third over the pelvic cavity, and being in fact hardly recognisable as the same bone. The coccygeal bones are wanting, or at most are represented only by a light irregular bone no larger than a nut. The rectum is in its ordinary position, and altogether normal, having its termination, where it perforates in an oblique direction, in the vagina, at nearly an inch in front of the superior commissure of the vulva.

Opening of the Rectum into the Bladder.

On the 29th of August, 1850, M. Vachez, farmer at Aney-le-Franc, begged me to look at a young calf, calved on the 26th of the same month. A neighbour told me that my employer had suggested and made an incision through the skin, in the situation where the rectum by nature ought to have terminated. The animal appeared quite healthy and of ordinary size, and its parents were without defect. But there is no anus to be seen, the skin being continuous in the place where it should be, and covered with hair. A vertical incision has been made with a razor, with the intention of penetrating into the rectum. The animal keeps making continually violent efforts to expel the contents of the rectum, but to no purpose. I introduced my finger into the artificial aperture that had been made, but could feel no traces of rectum. I with a bistoury penetrated deeper into the pelvis, but in vain. At last, in the act of placing the animal upon its back, with a view of continuing my exploration, my right hand came suddenly in contact with *meconium*; and I soon discovered that there was a quantity of it in a liquid state in the vicinity of the extremity of the sheath where the long hairs grow. This discovery rendered the diagnostic evident. *The rectum opens either into the bladder or the urethra*; though the latter supposition was rendered hardly tenable by the circumstance of the intestines now being discoverable through the former incision.

I recommended Vachez to suckle the calf, and so prepare it for the butcher, in the hope that if faecal matters continued to be expelled along with the urine, life might be prolonged sufficiently to give it time to fatten into veal for the market. On the 3d of September I received notice that the calf was killed; since for four days it had taken nothing, and had suffered considerably. I went immediately, but still arrived almost too late, the butcher having already rendered all but

impossible any methodic autopsy. The carcass was lean, and presented the following peculiarities:—

There was but one kidney, and that conglomerate, and on the right side; but it is very bulky, and equal in weight to two kidneys of an animal of the same age and magnitude. The artery and vein supplying it are double their natural volume; and the ureter, much larger than ordinary, is single, and opens, after a course of six inches, into the centre of the upper surface of the bladder: the bladder itself, though in other respects normal, being at this part prolonged from before backwards, the same as it is found to be in the young animal. Its contents are a mixture of urine and meconium. This (the superior side) has two, consequently two apertures along its medium line; the ureter occupying the centre, and immediately behind that, the posterior orifice of the rectum. The urethra is normal.

The rectum was enormously distended with accumulated faecal matters; and, from having become larger than common, suddenly contracts its volume, making a curvature towards the upper part of the bladder, whereupon it terminates, being contracted at its opening to $\frac{1}{7}$ th or $\frac{1}{8}$ th of its original calibre. Its peritoneal coat is continuous with that of the bladder; its muscular fibres likewise spread in all directions upon, and become interlaced with, those of the bladder; while the mucous coats of gut and bladder become continuous and confounded. The circumstances of the termination of the rectum being in a manner *strangulated* from contraction, and barely sufficient to allow the passage of the faeces, accounts for the extreme state of distension in which the gut was found, as well as for the efforts made by the animal during life.

In the two cases just related, the absence of anus was accompanied with remarkable anomalies in the posterior part of the spine, and in the urinary organs: a circumstance suggesting the belief that in such cases it is not the absence of anus alone that we have to deal with or to consider. And that in such cases, it appears more prudent to prolong the life of the animal until it shall be in a condition fit for the butcher.

In regard to congenital contraction of the anus, attended with symptoms of continual efforts to void matters which come away from the animal in thread-like particles, the affection may be treated with success by the use of tents, used so as to serve the purpose of dilators.

EXPERIMENTAL INQUIRIES INTO THE SECRETION OF SALIVA.

By M. G. COLIN, *Chef de Service* of Anatomy at Alfort.

M. COLIN has addressed a Paper on the above subject to the Academy of Sciences, coming to the following conclusions:—

1. The divers salivary glands of solipedes act in concert during mastication, notwithstanding each has a special activity which is put in operation, and modified by certain influences.

2. The parotids secrete unequally in a given time, notwithstanding both appear under identical conditions. They alternate one with the other. That on the side on which mastication is performing produces, at least, a third more than its fellow; though ordinarily its product amounts to double or triple the quantity of the other glands' secretion.

3. At the time that mastication is transferred from one side of the jaws to the other, there occurs a corresponding change in the parotid secretion.

4. The alternations of acceleration and retardation in the action of the parotids succeed each other in the order of the changes which happen in mastication. And they are as observable when such changes follow each other at intervals of a few minutes as of half-hours or hours.

5. These irregular alternations in the secretion are so dependent on the action of the parotids, that they are manifest even while the secretion is going on during feeding times.

6. The secretion of the maxillary glands is differently regulated from that of the parotids, that of the former being uniform, without being influenced by mastication.

7. The amount of saliva discharged into the mouth by all the glands put together, is on an average from five to six kilogrammes* an hour, at the time the animal is feeding on dry forage; when on grain, this becomes augmented a third, or a fourth; but is reduced to a fifth or a fourth, while the animal is feeding on roots.

8. The parotids furnish upwards of two thirds of this amount; the maxillaries not above a twentieth. The sublinguals and the molar and buccal glands the remainder. This proportion does not accord with the respective weights of the glands.

9. The secretions of the parotid and maxillary glands is

* A kilogramme being 2 lbs. 3 oz. and upwards, avoirdupois weight, this looks like a *lapsus pennæ*.

nearly in a state of suspension during abstinence. The thick viscous saliva found in the mouth at such time, comes from the little buccal and palatine glands.

10. The secretion, come from which of the glands it will, is excited by gustative impressions upon the buccal membrane; and such impressions suffice, without mastication, to excite secretion both from the parotid and maxillary.

11. Simply the motion of the jaws and the mastication of tasteless substances, make no sensible impression on the salivary secretion.

12. The sight of food, even on hungry animals, fails to produce salivation.

13 Stimulating substances, such as salt, pepper, cloves, vinegar, assafoetida, placed in contact with the buccal membrane, increases but very little the secretion usually attendant on abstinence.

14. Irritating injections thrown into the secretory ducts do not sensibly augment the salivation. Neither does congestion in the glands, produced by ligature of the jugular, as has been asserted by Lower. No more does ligature of the carotid influence it, at least at the time.

15. The secretions furnished by the various salivary glands are not identical. That of the parotid is extremely fluid and void of viscosity. That of the maxillary is thick and viscous, like a concentrated solution of gum; whereas, that of the sublingual, and of the various small glands in the mouth, is still more viscid.

16. And yet, notwithstanding their varying properties, the divers salivary secretions are capable of supplying one another's place, since mastication and deglutition continue notwithstanding the secretions of the parotid and maxillary be made to escape.

NATIONAL VETERINARY SCHOOLS IN FRANCE.

Admission of Pupils.

EVERY application for admission into the Veterinary Schools must be addressed to the Minister of the Interior for Agriculture and Commerce; and must be accompanied by the following certificates:—

1. Baptismal certificate of the candidate.

2. Certificate from the mayor of his place of residence and of his moral conduct.

3. Certificate from some surgeon or officer of health (*officier de santé*) of his having been vaccinated, or having had the smallpox.

4. A note of hand, upon stamped paper, from his parents, friends, or guardians, guaranteeing the payment, quarterly, and in advance, of his board, &c. during the entire period of his sojourn at college. Should he have been sent at the expense of the county, or any learned or other society, the trustees of such institutions must guarantee his cost.

Young men, of twenty years of age and upwards, must likewise produce satisfactory proof of their having answered to the recruiting law. On the above certificates turning out to be satisfactory to the minister, he will give an order for the preparatory examination of the candidate by the professors of the school into which he is about to be admitted, on the terms herein stated: viz. that he be admitted under no other conditions than

That of his paying for his board.

That he be not under sixteen years of age, and not over twenty-five.

That he be able to forge a shoe at two heats.

That he afford proofs of his knowledge of the French language, Arithmetic, Geometry, and Geography; to all of which the candidate will be put to the test by—

In the French Language.

1. Writing a passage from dictation.
2. The parsing of part of the said passage.

In Arithmetic.

1. By elementary exercises in.
2. The system of decimals.
3. Arithmetical and geometrical proportions.

In Geometry.

1. Elementary notions, comprising the study of lines and of plane surfaces.

In Geography.

1. Elementary Geography.
2. General knowledge of the geography of Europe.
3. Particular knowledge of the geography of France.

Periods of Preparatory Examination and Admission.

Candidates for admission to examination must present themselves at the school on the 1st of October, in order to show their authorities for admission, at which time the

directors will signify to them the day and hour of the opening of the examination.

Candidates who succeed in their examinations will be admitted as pupils on the 5th of October, when, on showing their cards of admission, the wardrobe man will serve out to them the requisites for bedding, and the superintendant will point out to them the sleeping-rooms they are to occupy.

Duration of the Session.

The duration of the courses is four years, at the expiration of which time such pupils as are found by the board (*jury*) qualified to practise, will receive their diplomas as veterinary surgeons, the fee for which is fixed at 100 francs, (£4 3s. 4d.)

Fee, and Mode of Payment for Board and Diploma.

The annual cost of board is 400 francs, payable quarterly, and in advance.

Foreigners admitted as pupils will have to pay, whether they simply enter to the school or become resident, on the first day of every quarter, the amount of fee required for the said term.

The fee for diploma must be lodged in the hands of the registrar prior to examination: should the candidate not pass the Board, the fee will be returned.

Presentations.

For the three veterinary schools there are 172 presentations (*dégrèvements*) of 200 francs, each of which, in every province, is at the disposal of the prefect, subject to the approbation of the Minister of the Interior. Their distribution, in respect to the schools, is:—60 for Alfort, 56 for Lyons, and 56 for Toulouse. In addition to these 172 presentations, are 68 presentations which are at the immediate and exclusive disposal of the Minister of the Interior, which are renewed every year, in the month of May.

Neither of these classes of presentations are awarded to any save such pupils as, after a residence of six months at least, at college, have given proof of their good conduct, as well as of their zeal and success in their studies. The half-yearly reports of the several schools are constantly referred to by the Minister, as guides to him in the distribution of presentations.

Regulations of the School.

No pupil can leave college without the authority of the director, who, being apprised of his having returned every article of furniture belonging to the establishment, will give

him a card of *laissez-passer* (let pass), for the passage of his own effects. Sundays and *fête* days are the only holidays allowed.

No pupil is permitted to go out of the college on working-days, even during the hours of recreation, without express permission from the director. Nor can such permission be granted here, but on account of affairs so pressing that they will not admit of postponement until the next day of vacation.

The director of the college has the power of granting fifteen days' leave of absence, at most, to pupils in ill-health, or whose affairs are of such indispensable importance as to call them home to their friends. Of this the Minister will be apprised, who alone can, if necessary, prolong or continue such leave. In the case of ill-health, a medical certificate is required.

Any pupil who shall exceed his leave of absence, will be considered to have abandoned the study of the veterinary art. His name will be erased from the list of pupils, whereto it cannot be restored, save through the decision of the Minister.

In the case of a pupil falling sick, he will receive every care at the (college) infirmary he may require. And should his disease turn out to be of a grave nature, or long duration, the director, in case of such being necessary, will sanction his removal, either to his house or to his friends.

Fit-out and Uniform of the Pupils.

Out of college, as well as on occasions of Divine service, of the distributions of prizes, or of visits made by the authorities, the pupils will wear the (regulation) uniform of the college, with which they will be expected to furnish themselves; as well as linen for their personal use, with the exception of such articles as they may require for their bed or chamber, which will be supplied by the establishment.

The pupils will also have to provide, at their own expense, such books, instruments, &c., as they may require for the prosecution of their studies.

M. Bouley, in remarking on the above new programme, congratulates the schools on the return of the Minister of Agriculture to the scale of fees in force prior to 1848; which, subsequent to that year, had been increased (from 400) to 700 francs per annum; a sum that was found too great for the friends of pupils to pay, and one which had consequently operated in diminishing the number of entries to the schools.
—*Rec. de Méd. Vét.*, April, 1852.

Home Department.

EXTRAORDINARY BALLOON ASCENT.

GREAT interest was excited in Paris on Sunday, by the announcement that M. Poitevin, an aëronaut, would ascend on horseback with a balloon on that day. Upwards of 10,000 persons paid for admission to the Champ de Mars, to witness the ascent, and outside, on the heights of Chaillot, &c., more than 150,000 individuals were collected. The President of the Republic was present, and was received with great enthusiasm. The balloon was fifteen metres in diameter, forty-seven in circumference, and twenty high, though it only weighed 150 kilogrammes.* It was a matter of considerable difficulty to fill the balloon with gas, owing to the violent wind which prevailed; and when it was filled, it was beaten to and fro by the wind so strongly that several of the spectators had to assist in holding it. At a little before six o'clock, the horse, a handsome dapple grey, was brought out; a stout cloth was placed round the body of the horse, and several straps, passed over the shoulders and loins, were united in rings, and by these rings the animal was attached by cords to the net-work of the balloon. A platform of basket-work, seven or eight feet above the horse, contained the ballast, and to this platform the aëronaut had access by means of a rope-ladder. A cord passing through an opening in the platform, enabled him to open the valve of the balloon. The aëronaut was dressed as a jockey, and had with him several bottles of wine and some bread. Some confusion was caused by the crowd attempting to force their way into the reserved place, but they were kept off by the soldiers. At length, at ten minutes past six, the horse was duly attached to the balloon, and M. Poitevin having mounted its back, the signal to rise was given. The horse plunged a little as it lost its footing, but when fairly lifted from the earth it dropped its legs, as is the case when horses are slung for embarkation on ship-board. The balloon rose majestically over the Ecole Militaire; but at times the wind was so violent as to drive it in such a position, that it appeared on a level with the aëronaut. The emotion of the spectators was very great, and one lady fainted. M. Poitevin displayed extraordinary *sang froid*, and saluted with his cap and whip. After a while, he was seen

* Little more than 328 lbs. avoirdupois.

to leave his saddle, and ascend by means of the rope-ladder to the platform containing the ballast, in order to throw some of it away, so as to rise higher. This done, he descended, and again mounted the horse. There was no net-work or anything to protect him or the animal. The balloon went in the direction of Fontainebleau, and M. Poitevin intended to remain in the air about an hour.

The following details are from the aëronaut's own account of his ascent:—"I had much difficulty in moderating the too great ascensional power, which, in a few minutes, carried me to too great a height for the horse. *There was a copious flow of blood from his mouth.* I passed through several counter-currents, which produced an almost constant rotatory movement. I found the cold almost insupportable. When clear of the clouds, I saw some splendid rainbows, and other phenomena of the solar rays. About seven o'clock I made preparations for descending, and in three-quarters of an hour after, my grapples were on the ground, but they did not take hold. I proceeded in this way for more than a league, when I arrived at the wood of Villemain, near the forest of La Lachelle, commune of Grisi, canton of Brie-Comte-Robert, (Seine-et-Marne.) During this time my horse was close to the fields, and *bit off the tops of the corn as he passed over it*; and when passing over the high trees he cropped off their leaves. At length, I was fortunate enough to put an end to this dangerous state of things. Seeing myself near the edge of a dry pond, I vigorously laid hold of a branch of a tree which grew near it, and for an instant checked the course of the balloon, and assistance being at hand, forty men laid hold of the ropes and it was safely secured. The balloon was emptied, and the only thing to be regretted is some slight injury to it, from coming in contact with the trees."

M. Poitevin was heartily welcomed by the people; at Grisi he was hospitably received; and at 11 o'clock he left for Paris.—*Illustrated London News.*

The Balloon Ascents at Cremorne.

On Tuesday, at the Westminster Police Court, Mr. Arnold was engaged from between one and two until long after the usual hour of retiring in the evening, in investigating the complaints against M. and Madame Poitevin, and Mr. Simpson, the proprietor of Cremorne Gardens, exhibited against them by Mr. Thomas, the secretary to the Royal Society for the Prevention of Cruelty to Animals.

There were in all five summonses, three of which charged

M. and Madame Poitevin "with unlawfully and cruelly ill-treating, and abusing, and torturing" the two horses on which balloon ascents were made, on the 23d and 26th ult.; the other two being against Mr. Simpson, alleging that, on each occasion, he did unlawfully cause and procure a certain horse to be cruelly ill-treated, &c.

Mr. Thomas conducted the case for the prosecution, and Mr. Lewis attended for the defence.

The court was crowded almost to suffocation by persons anxious to hear the proceedings. The two ponies alleged to have been so ill-treated, were brought into the court by Mr. Simpson, for the magistrate's inspection, caparisoned as when they made the ascents. They were pretty creatures, apparently in very good health, and so extremely docile and willing to have their bandages or slings applied, that they playfully lifted up their legs that the operation might be performed with greater facility. They, moreover, exhibited such attachment to Madame Poitevin as to follow her about the yard, and intrude their noses into the pocket of her dress in search of some dainty in store for them.

After some conversation as to the mode in which the proceedings should be conducted, in justice to all parties, it was determined that, as precisely the same features prevailed throughout both cases, and against all accused, the question should be brought to issue by going into the whole of the facts, and admitting the evidence of the defendants for each other, in the case against Mr. Simpson.

Mr. Thomas having briefly opened the case,

The first witness called was Mr. Harry Daws, a veterinary surgeon, of 41, Duke-street, Manchester-square, who deposed to witnessing the ascent on the 23d ult. The pony was supported by a portion of canvass under its abdomen, and a broad strap passed up behind the shoulders, and another in front of its hips. The effect of hanging up the animal by these fastenings would be compression of the abdominal viscera, congestion of the blood-vessels in the hinder extremities, extravasation in the peritoneal lining of the abdomen, producing internal bruises, and giving a great deal of pain and suffering to the animal. The external appearances would be, violent perspiration, and symptoms of great exhaustion from continued pain. The excessive perspiration would be a sign of nervous distress, arising from terror, together with other causes.

Mr. Lewis, who appeared for the defendants, cross-examined the witness for an hour, and elicited that—He had been a veterinary surgeon for twenty-six years. He had often used slings

to horses, and had known a horse go to rest on a sling every day for fourteen years ; but then his legs were not altogether taken off the ground. The pony went to the car quietly, and did not exhibit any fear or anxiety. It was not at all disturbed by the din of music or noise around it. Did not perceive any trembling or uneasiness about it. It struggled a little when it got in the air, and witness should say, it was very uneasy, but could not tell how many seconds it was uneasy, because he did not time it. A pony might be beat or bruised every day, but still might be in good health. Had not examined the horses very carefully, but believed them to be in good health. Thought if they were brought to him as a veterinary surgeon, notwithstanding the compression of the abdominal viscera and the congestion of blood-vessels in the hinder extremities, and the extravasation of the peritoneum, he should certify that they were in good health. The compression and congestion of the blood-vessels would injure only for a time ; for as soon as the cause was removed, they would resume their normal or pristine form.

Sergeant Underhill said, he witnessed the descent on Wimbledon-common. *The horse was exceedingly hot when it alighted, and perspiration was rolling down its shoulders, but it stood quiet. A gentleman jumped on it and galloped away.* He knew little of the ordinary habit of horses.

After the hearing of this evidence, Mr. Lewis addressed the Court, contending that no cruelty had been proved or practised.

M. Poitevin having been cautioned by the magistrate, that, by the law of this country, he was liable to three months' imprisonment if convicted upon this charge, and need not answer any question that might criminate himself, said he had had one horse three years, and the other four or five. That before one of the animals had been taken up, experiments had been made in France before a commission of scientific gentlemen, when the horse had been suspended from fifteen to twenty hours ; that it took its food during the time it was suspended ; and that he had ascended with this identical animal 150 times. He had made altogether between 540 and 550 ascents. The horse started quietly on the 23d ult., merely moving its legs once or twice, as living animals would do. When it came down it always fed heartily. The horse was fed when suspended for trial by the authorities, at Paris, between fifteen and twenty hours. In his opinion it did not suffer any pain by the ascents. Witness had communicated to Mr. Simpson that he had the permission of foreign powers to ascend, and that the proprietors of another

establishment in London had written him word that *the Royal Society for Prevention of Cruelty to Animals* had given their sanction.

Mr. Thomas denied that any permission had been given by them.

Mr. Thomas wanted to know whether, on one occasion, a horse of his did not *bleed at the nostrils* after an ascent.

M. Poitevin said he did slightly, but was uninjured, and ate directly afterwards; but this was owing to the altitude of the balloon.

In answer to an inquiry from Mr. Arnold, M. Poitevin said that it depended upon the rapidity of the descent as to the heat or coolness of the body.

Mr. Arnold: If you are cool on ascending, when you have descended, have you found yourself in a violent perspiration? —M. Poitevin: No.

Mr. Arnold directed the officer to examine the ponies, which had now been standing four or five hours in the courtyard, in order to ascertain whether it was the bandages and slings that had heated them.

Sergeant Underhill returned, and said they were very cool and comfortable.

Madame Poitevin confirmed her husband's account.

Mr. Gillingham, a veterinary surgeon, in practice for fourteen years, is asked: Have you seen the manner in which the horses were harnessed and attached to the balloon while ascending?—I have. In your judgment, would they suffer from injury or terror, while being so strapped?—I should say not. Then the questions were asked about compression, and congestion, and extravasation, to all of which he gave a negative. If there had been an extravasation in the peritoneal lining of the abdomen, would the ponies have been well?—I should say, "certainly not." I examined them yesterday, and they were in a perfectly healthy state.

Mr. Hall, a veterinary surgeon, in extensive practice for fifteen years, after corroborating Mr. Gillingham as to compression, congestion, and extravasation, is asked:—Have you heard the evidence given by M. Poitevin, with regard to the ascent and descent?—Yes. Have you seen the horses harnessed, and the mode in which they are affixed to the car of the balloon?—Yes. In your judgment, taking all the circumstances into consideration, do horses suffer pain, torture, or injury, from that mode of transit through the air?—"Certainly not;" I have had a horse for seven years in a sling.

Mr. Arnold said he should reserve his decision in this case *sine die*, but would communicate with the parties when he

had gone through the evidence. That although the evidence had been to show physical pain on the one side, and to rebut it on the other, another question arose to which Mr. Lewis, he thought, might have addressed himself—that of a horse being placed in a *situation of risk, and deprived by his position of the means of assisting himself in difficulty*. It was a different matter if a rational being pleased to do it. If a man were to place a child in such a position, that in a moment of danger it could not assist itself, it was a question whether it would not be cruelty; and the question arose whether an animal strapped up, in case of anything going wrong, it would not be dashed to pieces. The Court then adjourned.

MR. ARNOLD'S DECISION.

(*Abridged from the 'Times,' 14th Sept. 1852.*)

—I must reject all those arguments drawn from the fact of slinging animals, either for surgical purposes or being put on board of ship. In the former case, the animal is slung for the purpose of relieving it from pain, or of preventing it from injuring itself. Even if pain is inflicted, it is done with a view of preventing greater pain. In the other case, where a horse is put on board of ship, whatever is done, is done for what may fairly be termed the legitimate use of the animal, to transport it from one place to another for the use of man. On such occasions no human persons would inflict any unnecessary or superfluous pain; but there is a wide and obvious difference between inflicting pain on such occasions, when it may be necessary to do so, and doing it without necessity, and for the purpose of an exhibition, and for making money. All arguments therefore deduced from such facts are wholly beside the present question. It certainly appears from the evidence, that the mode of slinging adopted by M. Poitevin is superior to that ordinarily employed, and that every endeavour is made to avoid giving pain to the animal; but the question is—*was there, in fact, any pain inflicted on the horse, or was it placed under the influence of terror on the day mentioned in the summons, the 23d of August?* No other act of cruelty committed, if at all, at other times, or connected with the training of the horse, would have been admissible on this charge; nor was any, in point of fact, tendered in evidence. Upon the questions of pain, there were contradictory and conflicting opinions. One veterinary surgeon (Daws), said, that, from the manner in which the horse was suspended, it must have suffered greatly, and been severely

injured. Two others (Hall and Gillingham) gave it as their opinion that the animal could not have suffered the least *and assuredly the facts in the case bear out the latter opinion*, as after 150 ascents, the horse is in perfect health and condition. As to the influence of fear, the evidence is more doubtful. The sweat and wildness of the horse spoken of by one witness, would seem to show that he was under the influence of great nervous excitement; but the wildness was not noticed by another witness who saw the descent, and the sweat seems to be explained by the fact stated, that it was an unusually close evening: one of the witnesses, a veterinary surgeon, stating, that on that evening several horses in his stable had broken into a sweat without any other cause than the sultriness of the weather. I am bound to say, therefore, that it does not appear to me, *that the animal suffered either from pain or fear on the occasion*. I suggested, indeed, at the closing of the case, whether the placing an animal, without any paramount necessity, in a situation of risk where, in case of accident, it could not assist itself, was not an act of cruelty. To this it was answered, that it was, first, analogous to the slinging of horses already mentioned, or placing them in boxes on railways, an argument I consider I have already disposed of; and, secondly, that it could not be cruelty if no accident happened. But this is founded upon a misapprehension of the point suggested, for the question is—*whether the putting an animal to the risk of an accident is not an act of cruelty*. I have no doubt myself, but *that such an act is one of the most wanton cruelty*; but I must also say, I do not think it is such an act of cruelty, as is within the intention of the Act of Parliament. The words of the Act are—"If any person shall cruelly beat, ill-treat, over-drive, abuse, or torture any animal," he shall be liable to a certain penalty, and these words, I think, contemplate acts of cruelty of a different character from those I have just mentioned. I cannot, however, refrain from expressing my opinion,—an opinion of little value, if it were not, as I believe it to be, that of all reflecting men,—*that all such exhibitions as the one under discussion are highly inexpedient, and anything but creditable*, either to those who for the sake of lucre make them public, or to those who find pleasure in witnessing them. There cannot but be great risk attending them, without any corresponding good resulting from them, *and it is not creditable to any person to seek after profit or pleasure from exhibitions attended with such risk*. Numbers of persons will also feel alarm and distress of mind at hearing or reading of such perilous risks, even though they may not witness them; and for that reason also,

they ought not to be countenanced. But, however reprehensible I may consider such proceedings, I am bound to deal with this question upon other considerations. *I am bound to deal with it according to law, and the evidence adduced before me*, and not to travel out of the facts that have been proved;—to interpret the law strictly and impartially, as I am best able to understand it; and to decide whether, in my opinion, the defendants have committed the offence with which they are charged. *I have come, not, I will own, without reluctance, to the conclusion that* THEY HAVE NOT: the summons must therefore be dismissed.

MR. DAWS'S ACCOUNT OF THE POITEVIN AFFAIR.

DEAR SIR,—The mind sleeps, and is refreshed; and although I tax myself with being “apathetic” towards ‘THE VETERINARIAN’ of late with my pen, still my eyes and my ears have not been insensible to the attainment of knowledge to be acquired from men and manners, experience, experiment, and observation.

My name having appeared in a conspicuous manner of late, in the London and Provincial papers, as advocate of the “Prevention of Cruelty to Animals,” and the case to which I was called being a novel one,—one that will never again occur, in this country at least, so long as the “Royal Society for the Prevention of Cruelty to Animals” is in existence,—I am induced, under such a stimulus, to give you the benefit of my professional observations.

The animals unnecessarily subjected to abuse and torture, were aged ponies, mares, between thirteen and fourteen hands high, and in good working condition. They were saddled and bridled in the usual manner, one with a side-saddle for the female aeronaut. A sling, of a somewhat complicated character, was afterwards strapped around the animal's body, before and behind the saddle, terminating with two loose straps with pulleys on either side, to which the ropes were attached, to fasten them to the car of the balloon. The canvass portion of the sling did not extend higher up than the lateral convexity of the thorax and abdomen. There were, besides, straps passing between the fore-legs and around the neck, with a breeching similar to such as is in general use among cart-horses, or as a means of transit from the shore to the hold of a ship, or *vice-versâ*. I must give the inventor every credit for his ingenuity, as I think it utterly impossible for a horse to slip out of them: an accident that has occasionally

happened with the ordinary sling. Horse-boxes, however, have nearly, if not entirely, superseded the sling for this latter purpose.

Thus caparisoned, the animal was mounted and ridden round the area, for exhibition to the public assembled, who had come, like myself, to Cremorne Gardens, out of motives of pure *curiosity*,—to satisfy, in fact, the cravings of a depraved and morbid taste for such sights. Many persons expressed their disgust freely, at the time, at such an exhibition; whilst others applauded. The mare was then placed beneath the car of the balloon, and the ropes made secure to the loose straps and pullies, the rider being still on its back, (a man one day, a woman the other.)* The order being given to “let go,” the mare and her rider ascended quickly into the ethereal realms, the pony struggling very much, while the rider, who had assumed a standing position on the saddle, commenced dancing a hornpipe. At this time, the abdominal viscera of the animal being compressed, not only by its own weight but by that of its rider as well, it must have endured great pain and suffering; indeed, that it actually did so, I shall presently prove to you, from the observations I made, I having had the singular opportunity of verifying my remarks, by making an autopsy of the two-year old heifer, which was obliged to be destroyed, in consequence of illness and injuries received shortly after her first and last ascent and descent. The ponies, to my astonishment, alighted safe on *terra firma*, after an hour’s suspension in the air, with, on one, but a slight abrasion, near the patella, from the chafing of the sling.

These novelties were succeeded by a still greater one:—“The Ascent of a Lady, Madame Poitevin, on a Living Bull!” representative of Europa and Jupiter. Europa made her *entrée* into the arena, attired in crimson and white, in an ancient chariot, drawn by four horses abreast, receiving the plaudits of the assembled audience. Jupiter shortly after, very unwillingly, made *his* appearance; compulsorily, however, for he was forced on the stage by a number of men, who were all the time brutally ill-treating him: the entrance of “The God of Thunder” being accompanied by a *thundering* peal of laughter. The ‘Era’ remarks, “that the bull was a very *duodecimo* edition of the species, more like a Kerry cow than even a well-grown bull-calf. Madame Poitevin looked classically enough, as Europa; but the wildest sketch of imagination could not fancy Jupiter in the form of the miserable apology for an

* M. and Madame Poitevin.

animal which was to bear her into the clouds. While aping the classical, it would have been as well to have had, if not an animal of size and majesty, at least one bearing the colour of the bull, milk white, which bore the daughter of Agenor into Crete; and not a little brown beast, unworthy to be looked upon, much less to be bestrode, by *beauty*."

This unfortunate heifer was caparisoned in a similar manner to the ponies. A headstall, with large winkers and two collar reins, was on its head, and a side-saddle on its back, while the sling was affixed as before described. In addition, a large crimson cloth was thrown entirely over its body, having openings in it for the tail, the crutches of the side-saddle, the ends of the supporting straps, and its horns, which were gilt: indeed it was so completely enveloped, that nothing could be seen but its head, horns, tail, and feet; and it was almost impossible, even for a close observer, to distinguish its sex. When placed beneath the balloon, the animal attempted to lie down, but was prevented by the machine rising up, with *Madame* on the heifer's back. The beast struggled more violently than either of the ponies as it was in the act of being wafted into the air. It descended at Ilford, in Essex; and I have been informed by the owner of the farm whereon it grounded (a very respectable man), that the poor beast was in a state of great exhaustion, (arising, no doubt, from physical and mental agony,) unable to rise from the ground for some time after it had been landed. (He humanely stabled the animal, *taking it in part payment from the aerial voyagers, for damages which his property had sustained.*) On the following morning, he deemed it necessary to call in the aid of a professional, the heifer appearing very ill, not having touched any food during the night. The animal continuing to get worse and worse, on the third day after its descent *it was destroyed*, there being no apparent hopes of its recovery. *It had not been seen to ruminate since its arrival.* I was present when it was killed, and proceeded at once to the *post-mortem* examination of it.

Upon removing the skin, the points of the elbow and surrounding parts were one mass of extravasated blood, as were likewise the patella, flanks, and adjacent textures. The back was one continued mass of bruises, from the neck to the tail, which was broken in many places. The external anterior and inferior coverings of the thorax, and posterior and inferior parts of the abdomen, were very much discoloured, from the pressure of the sling and the struggles of the animal. The peritoneum, especially in the inguinal regions, was also very much discoloured, and portions of blood were extravasated

in various places, resembling *ecchymosis*. The right lung was scirrhus, and firmly adherent to the ribs: there was an effusion of serum into that side of the chest. The other lung was in perfect health. Heart atrophied, and very flaccid. Intestines empty. Stomach full of undigested hay.

These *post-mortem* appearances in the heifer, three days after her ascent, enabled me to speak with accuracy and precision of the effects produced on the ponies. I certainly felt surprised that two such practical members of the profession, as Messrs. Hall and Gillingham, should in evidence have contradicted my depositions. I am forced to the conviction, they did so, either through ignorance or from sordid motives, and that they suffered their tongues to utter that which their judgment did not dictate. *Neither of them saw the animals ascend or during their aerial flight. They did not see them for a fortnight afterwards*, not until after the summonses were issued by the worthy magistrate, who reluctantly dismissed the case on the score of administering the justice of the law. Those gentlemen stated, in their practice, they were in the habit of lifting horses *entirely off the ground for weeks together*, without any ill consequences ensuing!! Constant pressure will, as everybody knows, produce ulceration, and that to a very great extent. I have frequently seen sloughs of large magnitude come away from the bodies of horses that have been suspended for surgical purposes, when the sling has been accidentally left too tight for a few days only, or when the animals could not stand, in consequence of having paralysis of the hind extremities. Every author whom I have read on the subject deprecates the system of taking the animal entirely off his legs, as barbarous and inhuman. (See Mr. Percivall's 'Hippopathology,' vol. i, p. 228.)

The Royal Society for the Prevention of Cruelty to Animals is, I think, deserving of the thanks, not only of the members of our profession, but of the whole community at large, for having arrested such exhibitions, by punishing the persons principally concerned in them. I would advise every veterinary surgeon to read the last annual report of the Society, and at the same time to enrol his name among the list of subscribers for the year ensuing. Our respected Professor, W. Sewell, Esq., has long been a subscriber. This is the only name with V.S. attached to it on the list; but I trust the next year will contain many more, and I shall only be too happy to be the medium of assisting such laudable objects. I do not like to be too personal, but an acquaintance of most London practitioners is included in the list, viz., Mr. John Atcherley.

Auxiliary societies have also been established in several provincial towns in the United Kingdom, so that the claims of all animals on the sympathy of man appear likely to be universally felt, and the newspapers may not be filled with those reports of injury and cruelty inflicted upon animals which mercy has long wept to behold, and which humanity and sympathy strongly condemn.

I bring these remarks to a conclusion, with a quotation from the work, on 'Humanity to Brutes,' of our late respected friend and editor, Mr. Youatt, who says—

“The heart is hard in nature, and unfit
For human fellowship,
That is not pleased
With sight of animals enjoying life,
Nor feels their happiness augment his own.”

I am, Sir,
Your very obedient servant,
HARRY DAWS.

41, Duke Street, Manchester Square;
Sept., 1852.

THE VETERINARIAN, OCTOBER 1, 1852.

—
Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.
—

THE stretch of human feeling and sympathy for the brute creation has recently been put to a severe trial by two foreigners, Monsieur and Madame Poitevin, who have lately introduced into this country a novel method of gratifying that appetite for the wonderful, the appalling, the cruel, which is but too apt to reign paramount in the breasts of the sight-seeing community, composed for the major part of the inferior grades of society. That persons should be found among our countrymen ready enough to afford place and opportunity for exhibitions of the kind need not excite surprise, when we come to consider that the *amor pecuniæ* is the ruling passion; and yet, predominant as such feeling is, and among such people in particular, we would feign think better of the majority of them than to suppose that they

would torture animals, or even suffer them to be tortured, for the sordid purpose of filling their pockets. We would rather charitably suppose that those who licensed the performance of such freaks of cruelty were in ignorance of the pain and suffering the poor creatures, the subjects of them, were made to endure. The same excuse, however, cannot be alleged for the Poitevins. They acknowledge to have made some hundred or hundred and fifty ascents in balloons with animals strung on to them, happily and creditably for us, "in other countries." To persons unacquainted with the habits and feelings of animals, and uninformed in the matter of slinging them, it might appear harmless enough, so far as any bodily injury was to be apprehended, to suspend a horse in a well-contrived and adjusted slinging apparatus, and hoist him in it into mid-air. Even supposing, however, this were true, there is still to be taken into account the animal's sensations, to say nothing of putting him, per force, into a situation of peril, in which, in case of need, he is deprived of the power of helping himself. We do not imagine even M. Poitevin will contend that animals are destitute of the sense of fear, alarm, or dread, no more than we ourselves are. But this, which is the most favorable view we can take of the affair, is not the correct interpretation of it. For the real fact is, that animals do suffer corporeal, as well as mental pain in slings, of which, among horses, we have instances without number at our elbow. We wish the worthy magistrate, before whom the case was investigated, had himself but once been eye-witness to the resistance a horse makes the moment it finds itself shackled by slings of any description, resulting from the surprise, the embarrassment, the annoyance, nay harassing fright, it finds itself suddenly thrown into, and which becomes aggravated into actual pain, running on to torture, the moment it is lifted up off its legs, he would not have hesitated, as he did, what decision he was bound, in justice to the contending parties, and in humanity to the poor brutes, to come to; nor would he have so quietly listened, as he did, to the sophisms put forth to prove that neither "pain" nor "torture" were inflicted.

And what were these sophisms, alleged as “proofs?” One was, that the animal to be elevated suffered itself to be ridden quietly up to the balloon. Do horses, then, that have been flogged in riding-schools refuse to re-enter the schools to be flogged again? Or, do horses that have been vilely treated in butchers’ and bakers’ carts, and cabs and ’busses, refuse to be put into the same harness again? When acts of this description come to be repeatedly practised for any length of time—and particularly when surgical operations come to be frequently performed—we know that some horses will manifest their dislike or unwillingness to be so treated. But then, are we quite sure that M. Poitevin’s ponies suffered themselves to be put into their slings, to be hoisted up into the air, *without reluctance*? Were *they* not, like the poor ox, clandestinely, pushed, and urged, and goaded on to their trial? The other “proof” adduced to make people unacquainted with such matters believe they experienced no suffering, was, that the ponies fed as usual after being relanded upon *terrá firmá*, and released from their shackles. And would not a horse that had been flogged, or spurred, or whipped, or ill-treated in harness, or that had undergone some painful operation, such as being cut for the stone, or castrated, or docked or nicked, feed as usual, the moment the source of pain was removed? We even knew an ass to have been subjected to the cruel experiment of excision of the spleen, who, the moment the wound made in his abdomen, through which the spleen had been extracted, was sewn up, set to and ate for the remainder of the day, with an appetite as though nothing had happened to him; notwithstanding his hours, even then, were numbered.

It was stated at the inquiry before the magistrate, by the professional evidence on both sides, that horses had been known to be kept *for years* in slings or suspending apparatus; a fact from which it might be inferred, that no harm accrued from slinging or suspending animals. To understand this, however, it is necessary to be informed, that a horse, placed in slings, is either hauled up off the ground and *suspended* within them, as when the design is to embark him on board of ship; or else, is merely raised

erect within them, or rather supported by them, to such a degree only, that, his feet still remaining upon the ground, he has it in his power to stand, the same as he before did without the slings, or, by relaxing his limbs, to repose the weight of his body *upon* the slings: in which way, by alternating his position and varying his posture, he is able to continue and has continued, providing the girths and straps and pads of the slings do not chafe him, for years even, within his suspensory cage.

To Mr. Arnold's admirable summing up and judicial decision, we have nothing to object, save that it seems to us, that to Mr. Daws's evidence,—when it came to be known how he had watched the transaction from beginning to end, he being the *only* veterinary evidence who had actually, *in propria personâ*, eye-witnessed the entry and slinging and ascent of the animals—we submit, we repeat, under such peculiar circumstances, Mr. Daws's evidence was entitled to greater weight than was given to it. Professional evidence summoned at the moment for the express purpose of bolstering up the defence, was manifestly light and little worth in comparison to this. With this exception, we do not see to what decision the worthy magistrate could have come otherwise than the one to which he, in his judicial wisdom, found himself driven by the letter of the law. For our own part, from a long residence among and familiarity with horses, from an acquaintance with their habits in health, and an observance of their sufferings under pain or disease, we feel no hesitation whatever in denouncing M. Poitevin's exhibition to be one involving "pain and torture" on the animals made to subserve to it. Upon what grounds the "commission" of the French Government, as was asserted, came to different conclusions, we are of course unable to say; it is not however unlikely, that some future day may bring forth something, to enlighten us on this part of the subject, from the continent. Meanwhile, we must iterate our opinion and conviction—a conviction founded on actual experience and repeated observation—that the exhibition was a most unwarrantable infringement of humanity to the brute creation, invented for the purpose of pandering to the appetite for the

cruel, no less than for the novel: while we congratulate the British public at large, and the animal's friend in particular, at the happy issue this inquiry has had; for which both are so much indebted to the "Royal Society for the Prevention of Cruelty to Animals," as well as to the prompt and persevering manner in which the whole affair has been conducted by their able secretary, Mr. Thomas.

WE have received an affecting appeal from the widow of the late Mr. P. Fry, whose death was announced in the Registrar's Report in our Number for last Month. Mr. Fry left his home, on the 15th of March last, in the enjoyment of the fullest health, taking his leave of the one in this world most dear to him, one whom fate had decreed he was never to behold again. After executing the object of his journey, Mr. Fry was on his return homeward, when, as he was ascending a hill in his road, he, on a sudden, was run against by a man, who turned out to be drunk, coming at a furious rate down the hill; and by the collision was struck dead on the spot. The late Mr. Fry obtained the diploma of the Royal College of Veterinary Surgeons in 1836, since which, although he has been industriously engaged in private practice, his receipts, up to within the last two years, have been hardly adequate to the maintenance of his house. The consequence is, his disconsolate widow is left wholly unprovided for, and worse than all, is at present from ill health, and being a cripple, incapacitated from making any exertions on her own behalf. Under these distressing circumstances, we feel assured we shall not make a fruitless appeal for her to her late husband's professional brethren. Donations will be received by C. and J. Adlard, (our Printers,) Bartholomew Close, West Smithfield, to whom Post-Office Orders are requested to be addressed.

Donations are already announced from "The Editor of THE VETERINARIAN;" the Professors of the Royal Veterinary College; Mr. Charles Percivall, Royal Artillery; Mr. Turner, Regent Street.

SINCE the above was written, it has come to our knowledge that, on the occasion of the last Meeting of Council, the members present kindly afforded Mrs. Fry temporary assistance. So far as we have been able to learn their names, they were, we believe, Messrs. Braby, A. Cherry, Dickens, Morton, Sewell, Simonds, and Withers: we cannot, however vouch for the accuracy of this list, having no time for application for greater correctness.

MISCELLANEA.

CLERKENWELL.—*Mr. Charles James Spooner*, a professor and lecturer at the Veterinary College, Camden-town, was summoned for 8d., which was claimed by James Mead, for the hire of his cab.

The case is a novel one, and of much public interest.

The complainant said, that Mr. Spooner's servant called him from a cab-rank to the residence of that gentleman, who, however, refused to have anything to do with him, and ordered him away with his horse and vehicle. He was entitled, he said, to that amount for being drawn off his rank by defendant's authorised agent.

The defendant, in answer to the complainant, said, that the cab-horse was diseased in the hoofs and fetlocks, and totally unfit for use at the time he first saw it. The poor animal was suffering the most excruciating agony, and unable to rest its feet in one position a second. For those reasons he declined to be conveyed by it, and would have richly deserved a prosecution for cruelty had he done so.

The worthy magistrate said, the defendant had given a very justifiable and humane answer to the claim, and sincerely wished that every one hiring public vehicles had so much discernment, as it would save much barbarity. The summons was then dismissed.

ERRATA.

Page 526, line 20, *for* "important," *read* "impudent" quackery.

„ 527, „ 1, *for* "veterinary," *read* country "vet."

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NAVICULARTHRITIS IN THE *HIND* FOOT.

By JAS. RAINSFORD, V.S., 4th Dragoon Guards.

A chesnut gelding, 8 years old, the property of an officer of the 4th Dragoon Guards, fell lame of his near hind leg (the lameness supposed to be in the fetlock joint). Four days after the accident, I was requested to see him. Upon examination, I could not detect any cause for the lameness in the part above named; but, from his resting the limb on his toe, as well as from his evincing pain from compression of the flexor tendon, at the back of the small pastern, with increased heat in that part, I gave it as my opinion that the *navicular joint* was the seat of injury. ("Absurd! whoever heard of navicular in *hind* feet?" This settled the question against me.) A private practitioner was called in, who coincided in the first opinion (fetlock-joint lameness), and recommended blistering. This was done, and was repeated, but without any benefit. The horse was taken to Manchester, and put in charge of a private practitioner. Repeated blistering was resorted to, but the lameness still continued. As a last resource, he was turned out to grass for a couple of months, at the end of which time he was taken up. I again was requested to see the animal. I now found the heels deep and narrow, and the sole cupped, &c., all which convinced me I had no reason to deviate from my former opinion; it was now a case of incurable navicularthrititis. The horse was in consequence destroyed. The whole of the joints of the affected limb, from the hip to the head of the small pastern, were examined, without finding the slightest trace of disease; but in turning down the flexor tendon over the navicular bone, the seat of disease became apparent. Adhesion and ulceration had taken place. There existed two exulcerations, one on each side of the protuberance of the bone, large enough to admit a small pea, which were filled

with pus. This turned out, therefore, a true case of navicularthrititis, without any external injury being observable. I have seen some cases from punctures in the hind feet, but not any like the above.

14th August, 1852.

. The above case constitutes a rare exception to a general pathological law. It is the only case of the kind that has come to our knowledge.—ED. VET.

THE BENGAL STUD HORSES.

Ungeerabad Cantonment,
4th June, 1849.

SIR,—I have the honour to forward to you a few remarks I have put together on the present state of our stud horses (artillery and cavalry), with a request, should you approve of their general tenor, you will be pleased to submit them to the authorities. I am led, Sir, to trouble you with them, convinced that, should you agree with my impression of their truth and importance, they could have no more efficient supporter with the Government.

That the stud horses are, generally, unfit for artillery and dragoon service, few who have had any experience in the field will deny; and the last campaign has served to confirm, in my mind, the impression, that, inferior as the stud horses used to be, they are still further deteriorating. I have no hesitation in affirming, that, at the present time, a campaign which shall last only a short period, and be attended with no very extraordinary severity of work or privation, shall yet be sufficient to prove, still further, the utter worthlessness of the majority of stud horses. Under privation and work, with exposure, all their bad points are at once laid bare. Their thin chests, without breadth and depth; their long attenuated limbs, and the greyhound run of their flanks, proclaim their utter deficiency in those points which constitute the beauty of the troop horse; while their surliness and irritability of temper are wofully increased.

I am not fully prepared to explain the reasons why horses which cost the Government so much, should yet be of so little value; for the necessary information is difficult to be obtained by an officer serving with his regiment and at a distance

from the breeding establishments; but, from what information I have obtained, I gather that insufficient attention is paid to the mares and foals. Large prices are paid for stallions; these are put to mares, which, if of good breed, are still low in flesh, impoverished in habit, and scarcely capable of sustaining themselves, without the additional burthen of nourishing their young. Again, these colts are left with their already emaciated mothers, and, for the first nine or twelve months, pass a life little short of starvation. They are then taken into a service which follows an opposite course: they are abundantly fed, are housed and clothed, of which the results are seen in the severity and strange variety of form, and fatality of issue, of that disease of colthood—strangles. The annals of the stud proclaim its castigation of this unwise mode of proceeding.

How different is the course of that true breeder, the Arab. With him, the mare is the first object. No price will tempt him to part with her. He nourishes her to his own deprivation. No care that he can bestow is ever withheld, and she is treated more as his offspring than his slave,—since he well knows, that in her progeny she will repay him. Now, with respect to the feeding of colts, an English breeder—and none understands rearing colts better—will tell you, “you may starve your colts the third year, if well fed the first and second; they cannot lose what they have got; but if starved the first year, they are rendered hopeless. No after-care or feeding will redeem the time lost, and they must remain weeds to the end of their existence.”

With respect to the remedy for these deficiencies, I am of opinion that, to improve the stud system, and place it upon a footing to enable it to support the demand for good and efficient horses, would cause such an outlay as at once to be a bar to its adoption. Besides, I am satisfied that horses deteriorate in the provinces; and for the studs to be kept up efficiently, a constant supply of fresh mares and stallions would be required, the expense of which would be enormous. To other countries the Government should look for their remounts, and while Caubul, Bokera, Candahar, Herat, and Persia, contain breeding districts, which, the market being open, would keep our cavalry well supplied, New South Wales would afford us abundance of draught cattle, and in taking their horses we should be benefiting one of our colonies.

During the first Caubul campaign, when starvation compelled us to destroy so many of our horses as to render the cavalry dismounted, officers from regiments were directed to

endeavour to procure fresh ones, and a number of most excellent and useful remounts were procured. An unlimited supply would have been obtained, had not large studs of horses been sent away previous to the arrival of the army, to prevent their falling into our hands. I was in attendance on the officer appointed to purchase for the 16th Lancers. We went round the Candahar district, buying from the farmers as you would in England. We saw their establishments, and their mode of bringing up their young cattle; these were sleek and well fed; the mothers robust and healthy, and of good substance. We asked for the stallions; the reply was characteristic:—"Any stallion answers." Three men told us that, if the Indian markets were open to them, they would supply almost any amount of horses.

I believe it is now beyond doubt that, for artillery purposes, the New South Wales' horse is so superior to the stud breed as to render any attempt at comparison ridiculous. The colonial horse is tractable, enduring, patient of privation, and of a courage no difficulty can damp. The most inveterate partiality can scarcely pronounce that these are qualities which characterise the stud horse.

Under all these circumstances, my advice to Government, (and I offer it with confidence, for I have served fourteen years in India, and have seen several campaigns, one lasting fifteen months, when the cattle were well tried,) my advice would be, at once to throw open the markets to the dealers—proclaim through the countries I have named, that good horses will be taken at the regulated prices,—and in a few years you will have no lack of cattle—from all the breeding districts they will flow in, and the only difficulty will be, which to choose. You will have no competitors, for no one can afford to give your price.

In the admission of these horses, I would appoint (as in England) an officer to purchase, and be responsible for the adaptation of the animal to the purpose for which he is bought, and a veterinary surgeon to be responsible that the horse is sound.

I look upon the present system of committees as pregnant with evil; and from what I have seen, I am convinced that the Government experience of the system has not been favorable.

The remounts I would recommend being taken at three years old, and placed in depôt in a good grass district, as far north as possible. I would bring these horses up hardily, (shelter from the rains only being afforded.) They should be worked according to their strength; when, by the time they

had completed their fifth year, I would have these horses sent to the regiments, fit to take their place in the ranks in all respects, save the being accustomed to the soldier's weapon. I have, &c.

R. J. HURFORD, V.S., 9th Lancers.

Major General Sir W. R. Gilbert, K.C.B., &c.,
Commanding Punjab Division.

SALIVARY FISTULA, SHOWING THE ABUNDANCE OF THE SECRETION OF SALIVA.

By CHARLES DICKENS, M.R.C.V.S., Kimbolton.

SIR,—Having noticed in your periodical of this month an excellent paper emanating from a continental veterinarian, upon the action and peculiarities of the salivary glands, reflecting great credit upon the author for research and industry, and forming a subject for reflection to the practical man in a pathological sense, as a doubt is expressed relative to the quantity secreted within a given time (or that the author has made a *lapsus*), it may not be ill-timed, in connection with the subject, to relate the particulars of a case which once occurred in my own practice; and should you deem it worthy of a corner in your Journal, it is much at your service.

I am, yours very truly.

A farmer requested my advice respecting a four-year-old cob, which he was daily riding as hack, and which, to use his own expression, had been “spitting” from one side of his jowl for some days past. It was recognised as an open parotid duct on the left side. Finding the saliva trickling in an almost continued stream, curiosity induced me to time a given quantity, as caught in a graduated glass measure. The following was the result:—While in the act of masticating hay, from 8 to 10 drachms per minute flowed; but if the jaws were quiet, from 6 to 8 drachms only. Now, if we take the medium at 1 oz. per minute, and suppose an equal secretion from the opposite gland, it will fall little short of a *gallon per hour*, in a comparatively small animal. Adding to this, therefore, the submaxillary, sublingual, &c., secretions, we shall find that M. Colin has not so *very far exaggerated*. I shall not trouble you or your readers with a lengthened account of the treatment. Suffice it to say, that a cautious application of

the *cautery*, and subsequently of the *pulvis astringens*, soon suppressed it, and the horse kept his condition the time. I have recently had a case in which the application of *colodion* soon arrested the discharge.

HERNIA MESENTERICA.

By ALEX. HENDERSON, M.R.C.V.S., Park Lane, London.

Sept. 29th.—I was requested to see a bay cart-mare about 10 o'clock this morning, reported to have an attack of "gripes." I was told that she showed symptoms of illness on being brought out of the stable at 6 o'clock, by lying down in the road, and kicking violently. A "gripe draught" was then given, which seemed to relieve her, so that the carter fancied she would be able to work. They had, however, not proceeded more than a mile, when she appeared again in great pain. She was taken out of harness and put into a stable, where she directly laid down. When I first saw her, she was lying down, and had no disposition to move. The pulse was full and laboured; the visible mucous membranes injected; and the breathing hurried. I administered Aloës in Sol., ʒvj; Tr. Opii, ʒj; Sp. Nit. Ether., ʒij; and Enemas.

Towards 12 o'clock she got up, staled, and ate some mash. I now left her very tranquil.

5 P.M.—She is again in great pain; lies on her right side, and paws the ground; but her pain is by no means violent.

8 P.M.—Much the same, though the pulse is considerably diminished in its caliber, and has become quite wiry. Repeat Enemas; rub Mustard on the abdomen; and give Opium and sweet Nitre again.

Sept. 30th.—Patient in the same position in which I left her last night, without any sign of her suffering having been violent. Pulse not near so distinct; rectum empty.

I gave up all hopes of her recovery; notwithstanding, I ordered her Aloës in Sol., ʒiv.

She kept in one position all the day; lying on her right side; pawing incessantly; but showing no violent symptoms. She died about 8 P.M.

Post-mortem Appearances.—On laying open the abdomen, the large intestines appeared perfectly healthy; but con-

tained no fæcal matter. The small intestines, however, showed considerable inflammation; but, on coming to the stomach, it was found, that a portion of the duodenum (nearly its whole length) had become lacerated, and protruded through that portion of peritonæum which connects the stomach with the spleen. The mucous coat of the stomach was much inflamed. The vessels of the mesentery were considerably distended, and the strangulated portion of intestine was going on to sphacelus.

STRANGLES AND ITS SEQUELÆ.

By PAGE WALLIS, M.R.C.V.S., Cambridge.

To the Editor of "The Veterinarian."

THE following case may not be uninteresting to the readers of your valuable periodical. And, first, I must give you the history of a black cart-colt, which I was summoned to attend to on June 14th for strangles. There being general febrile symptoms with tumefaction of the submaxillary and parotid glands, I ordered the animal to be kept in a loose place, to have nutritious diet, and gentle fever medicine. The disease went through its course with the formation of abscess in the left submaxillary and right parotid glands. I at once determined to open them, and a large quantity of well-digested pus escaped. I attended the horse up to the 2d of July. Since then he has been in a perfect state of convalescence. At the time of this animal's illness, the patient in question was shut up with him in the same place. I had frequently observed to the owner on the perilous situation of the bay colt. He said, "They having always been together at pasture, he did not feel inclined to separate them." My first attention was drawn to the bay thorough-bred colt on June the 23d, in the course of one of my visits to the former patient. The man complained of his being off his appetite, and of his coat looking dead and rough, and his skin being tight. There was protrusion of the head, from inflammation going on in the throat. I at once gave my opinion as to the case being the same in nature as that of the black horse. I therefore ordered the throat to be stimulated, and the patient to be kept on cooling, but nutritious diet. From his irritable and vicious temper, all attempts to give medicine proved ineffectual. On my next visit, the 26th of June, the animal appeared to be going on very favorably, and he kept im-

proving until the 8th of July, when I ordered them both to be turned out into the pasture grounds.

I heard no more of them until the 24th of July, when I was ordered to attend the bay colt for lameness in his off hind limb; the man informing me he had been lame from the 16th, he believing him to have been struck by lightning. On my examination, I could not find any tumefaction in any part of the limb; but, on passing my hand down the femoral muscles, there were heat and pain on the application of pressure. I ordered the part to be fomented two or three times per diem, and applied some embrocation to the muscles; though, in point of fact, on leaving, I did not feel satisfied as to the nature and situation of the lameness. On the third day following, I took over my smith, and made a minute examination of the foot, but found it to be in a perfectly healthy condition. I again ordered the fomentation to be continued three times a day. August the 10th; there was considerable tumefaction going on. I was quite certain we had pus forming on the 17th of August. There was fluctuation of pus under the hand. I made an incision with the lancet, when a considerable quantity of thick pus made its exit. I now ordered the patient better diet, and the abscess to be kept open for some time, thinking he would go on well; but still it is the impression of both master and man, that this was all from the effects of the electric fluid. I saw my patient again on the 21st, when I observed there was a peculiar dragging of his hind legs, with rigidity of the muscles of the neck, and from it he was unable to feed off the ground. I now told the owner I thought there must be some spinal affection. His head was carried almost in the same position as you would see a horse after death from contraction of the ligamentum nuchæ. I saw him again on the 29th, when he appeared to have improved; his appetite being then pretty good, and his general health appeared to be ameliorating. I ordered him plenty of food. I saw him again on Sept. 19th; there was swelling going on in the near hind limb, in the same situation as the one on the off limb. I ordered fomentations, &c.; this swelling all disappeared before the 25th, when my attention was again called to him. Immediately I entered the box, I found him lying at full length; pulse and respiration irregular, with partial œdema present. On inquiry, I found he had been standing with his head resting against the manger and corner of the box until he became violent, and fell for the last time. He lived for about two hours after my arrival.

It being late at night, I could not make a *post-mortem*

examination. Knowing the tendency to suppuration in these cases, I came to a conclusion that abscess existed in the brain, or some part of the glandular system. There being a very heavy storm on the 16th of July, and several horses killed from the effects of the lightning, my employer feels quite certain this animal died from the same. We all know how hard it is to divest the mind of an early impression. If you would give your opinion of the case in your next Journal, I should feel very much obliged.

Post-mortem examination.—On laying open the cavity of the abdomen the liver was enlarged; on cutting through the left kidney an abscess was discovered, containing about six ounces of pus in its medullary structure. On exposing the diaphragm I found there was an abscess, containing about half a pint of thick pus in its muscular portion. The contents of the thorax appear to have a pallid appearance, though in other respects were healthy. The man, after taking off the two fore limbs, called my attention to a small quantity of pus in the dorsal muscles. On examining the heart I found there was a small sinus, where the pus had found its way out between the fourth and fifth dorsal vertebræ. With the assistance of a chisel and saw, I found an abscess on the medulla spinalis, containing about an ounce of pus.

I remain, yours truly.

Bridge Street, Cambridge.

. This was a case of what the late Mr. John Field aptly called "Irregular Strangles." In his *Posthumous Records* a similar case is related. And we have now, in our record of sick, another case of the same kind.—ED. VET.

PERITONITIS AND ASCITES, WITH ENLARGEMENT OF THE SPLEEN.

By GEORGE LEWIS, Monmouth.

DEAR SIR,—Should you deem the following case worthy of insertion in your Journal, it is at your service.

On the 15th ult. I was requested to attend a remarkably fine two-year old cart-colt, the property of a gentleman near this town. Upon my arrival I found the animal in great pain, as if suffering from spasmodic colic; but the pulse denoted

it to be more of an enteritic nature. I administered antispasmodic medicine, combining about ʒivss of aloetic mass in solution, and as, upon examination per rectum, the fæces were found to be hard and coated with mucus, I administered enemas. This had the desired effect of relieving the pain; but, by the next morning, the aloes had acted so much upon the bowels that I ordered the horse to have gruel.

The inordinate action upon the bowels continuing, I felt it necessary to check it, which I did, and the animal from this time continued to improve (apparently) and do well. And here I would observe, that about three weeks prior to this attack, he had been observed to be "tucked" up (he was out at grass), with *staring coat*, and to be not feeding properly. I now, however, informed them that I believed the animal to be suffering from ascites; although *external appearances* did not warrant me in concluding that he was affected with that or any other internal disease. On the 27th I was again consulted concerning him. His hind legs had taken to swell below the hocks. I advised moderate exercise, the extremities to be well hand-rubbed, and tonic-diuretic medicine and nutritious diet to be given. The latter, however, he had had, together with every care and attention. The above treatment seemed to have the desired effect, the enlargement of the legs disappeared, and all seemed to go on well.

On the 1st inst. I was again fetched in haste, with a message that the colt was again "taken ill the same as before, but much worse." I attended instantly, and found him as described. I abstracted about three quarts of blood, when I was obliged to desist. It had about three inches of "buffy coat." After administering medicine, I had well rubbed in a liquid blister. But all appearing to fail, and the pulse having risen, I attempted to abstract more blood, but could not obtain more than a pint; the pulse faltering instantly, and the animal evincing symptoms of fainting. In a short time the blistering took effect, and by the next morning he was again reported as well as ever. Things continued in this state until the 7th inst., when I was desired to see him for an enlargement he had upon his *left side*. I promised to do so; but the same evening a message came to say that the horse was ill again, and again worse, with great shivering, &c. I sent some medicine and promised to attend; but before I could do so he had expired.

Post-mortem.—Next day I made a post-mortem examination. Upon opening the abdomen, rather a large quantity of dirty coloured fluid escaped, upon which was floating a quantity

of (I believe) coaguable lymph, which appeared not unlike curds of milk. The whole of the abdominal viscera was inflamed more or less.

The spleen was enormously hypertrophied, its weight being estimated by several persons who were present (and who afterwards weighed it), to be *much above 20lbs.* Upon further examination it was found to contain an enormous abscess, and besides, contained two smaller ones. It had adhesion to the parietes of the abdomen by a kind of scirrhus tissue, which gives out with some difficulty.

I am, Dear Sir,
Yours respectfully.

P.S.—I here give you the name of the owner, residence, &c., although I cannot authorise their receiving publicity. But I think it proper that parties' names should be known to you, as I am of opinion, with the writer of an article in your Journal a short time since, that many of the Mr. A's and B's, &c., are imaginary, and what they write the outpourings or overflowing of a diseased imagination.

GENERAL VISCERAL DISEASE, WITH ANOMALOUS OSSEOUS DEPOSIT IN THE LIVER.

By T. YOUNGHUSBAND, V.S., Greystoke.

DEAR SIR,—In relating to you the following case, which has lately come under my notice, I do not intend to go through all the particulars thereof, such as the every-day symptoms, treatment, &c., but only to give a short outline, to show how easy it is to be deceived in our prognosis.

Sept. 18, 1852.—Requested to attend a milch cow belonging to a farmer in my neighbourhood, which had been in his possession about four months. It was in fair condition, and manifested no symptoms of disease until the day I was called in. I found her down, looking dull and listless, with little or no appetite for food; ears and legs of a natural temperature; pulse weak; body rather swollen; bowels constipated; lactation entirely suspended; respiration not much accelerated, but occasionally a short cough; and the visible mucous membranes of a natural hue.

Such was the state of the animal as near as I can describe, and according to these symptoms, to the best of my judgment,

I commenced to treat the animal ; although, I must confess, without hope of any satisfactory result. Therefore, I will not occupy the space of your valuable periodical with relating the treatment, &c., but leave that for more able hands than mine. Suffice it to say, from the treatment she received, for a day or two she seemed to rally, and we were not without hopes ; but the medicine, from the owner's neglect, was discontinued. Again, on the fourth day, she showed symptoms of more active disease ; was taken with shivering ; refused all food (except a little gruel, of which she partook very sparingly) ; ears and legs cold ; quick but weak pulse ; respirations quickened ; evacuations from the bowels entirely suspended, and moaning as if in great pain. Auscultation gave proof of diseased lungs, and I had reason to fear the heart was implicated in the disease. Therefore, she was treated accordingly, but without avail ; for on the evening of the third day after this second attack, she died, apparently under the most acute sufferings.

Next morning, I attended to make a post-mortem examination, and try to increase my little store of knowledge ; on which occasion it was shown, as you will perceive from these cursory remarks, that my prognosis carried with it a portion of truth. But yet, appearances are often deceitful, and we should not decide in haste ; for " all professions," it is said, " have their mysteries."

After the skin was removed, there was the most intense inflammatory action seen to have taken place on the left side of the body, behind the shoulder ; while all the other outward parts of the carcass appeared to be in a normal state. Upon laying open the thorax, extensive disease was brought into view ; the lungs being in a high state of inflammation and congestion, and the pericardium, and also the heart itself, being highly inflamed ; as was also the pleuro-costalis, most part of which was coated with lymph. Carrying my examination further, my attention was next drawn to what appeared to be a cyst or bladder attached anteriorly and superiorly to the rumen, containing at least half a gallon of thin, transparent, glutinous fluid, which had no perceptible smell.

But most of all the liver, from its immense size and diseased structure, surprised me, and, I think, gave ocular proof of having been diseased a long time prior to this examination ; for, when drawn forth, it appeared to be of three times the size of one in a normal state, containing, in its substance, an immense number of what I called calcareous deposits, of the size of a horse-chesnut, which, when crumbled betwixt the finger and thumb, gave a feeling of sand or grit. There

were some dozens of these deposits, but in none did I perceive anything like the suppurative process. Most part of the peritonæum, which lines the abdominal muscles, was in a high state of disease, being coated with a thick glutinous, yellow serosity, confined mostly to the left side. The right kidney appeared healthy; but the left showed slight traces of disease: the rest of the viscera appeared normal.

I may here just remark, that the disease showed itself at the beginning in such a mild form, that I never conjectured for a moment that such extensive disease, as was shown by dissection, could have taken place; indeed, according to the late remarks of Mr. Litt, if I had gone boldly forward and described her disease, I assuredly should have gone and done egregiously wrong.

Yours faithfully.

CONTRIBUTIONS TO VETERINARY PATHOLOGY.

By WILLIAM SMITH, M.R.C.V.S., Norwich.

A Tumour of great size and weight, supposed to be an enlargement of the pancreas of a Bullock, connected with a diseased Kidney.

ON the 2d of July last, Mr. James Sharpen, a practitioner residing at Southrepps in this county, did me the favour of forwarding for inspection a large tumour, which was removed from the abdominal cavity of a three-year-old bullock, the day previously.

The animal was slaughtered in consequence of his general appearance of unthriftiness and apparently diseased state, being believed to be suffering from an enlarged nævus.

My informant writes, that the bullock was an *enormous* feeder, requiring double the quantity of provender compared to the others in the yard; but was, nevertheless, an unthrifty beast—"a bad doer"—and had been so for some time.

When alive, there was no swelling to be seen externally over the region of the loins, nor was the urine noticed to be unusual in colour or quantity; although most likely it might have been so, and have escaped observation.

After death, upon opening the abdomen, the tumour sent to me was discovered, closely attached to the spinal column; "the right kidney adhering to it, or rather the tumour to

that viscus." There was no unusual appearance in the surrounding viscera.

The tumour was enclosed in a dense fibrous cyst of considerable thickness, and weighed upwards of 45lbs. The kidney was not entirely enveloped in the cyst, but was firmly attached to, and closely connected with it; one-half of this gland being absorbed, and in its place was found a coagulum of dark-coloured blood, weighing several pounds, which was the medium of communication between the remaining portion of the kidney and the tumour. This part of the gland appeared to be in a normal state.

The other, and much the larger part of the morbid mass, resembled in *structure and colour the pancreatic, or a salivary gland*, and upon cutting into it, a glairy saliva-like looking fluid oozed copiously from every incision.

Remarks.—Is it not probable, that the formation of this tumour owed its origin to a severe blow or injury inflicted on the loins—through, perhaps, the riding of another ox—and that the rupture of one or more of the large renal vessels, with the partial destruction of the kidney, and the growth of the morbid matter, were the sequelæ?

Singular affection of the Salivary Glands of a Mare.

About three months ago I visited with a friend, who wanted to purchase a horse for the road, a repository sale establishment in this neighbourhood; and seeing there a useful looking chestnut mare which was thought likely to suit, my friend wished me to look at her and see whether she was pretty right. I observed nothing very objectionable about her. She was about eight years old, had a somewhat staring coat, and a slight paralytic affection, of no consequence, of the upper lid of the right eye, which rendered her unable to keep it as elevated as it would have been in a perfect state, though sufficiently so for all the ordinary requirements of vision.

I moreover remarked, that she had an unusual flow of frothy saliva from the mouth, and that her cheeks on either side were slightly swollen. Passing my finger over the external surface and edges of the molar teeth, I found by their exceeding smoothness that they had recently undergone the operation of rasping, and thus I accounted for the excess of saliva and swelling noticeable.

As she was "*warranted sound and quiet in harness*," I advised

my friend to purchase her if she went at a low price. He did so; but, shortly afterwards, ascertaining that the vender was a notorious screw-dealer, I informed my friend that he must expect to find out something disagreeable about his new bargain, and reminded him of the adage, "that the buyer hath need of an hundred eyes, the seller of only one," and so it proved.

She was sent to my infirmary for the night. Upon food being given her, the flow of saliva into the manger and round where she stood was excessive, and although she ate a quantity of hay and pollard, the act of mastication was attended by the generation and waste of such a large quantity of saliva that I had no longer any doubt but that she was no bargain; the case, however, to me was one of a novel kind, and may be to some of your numerous readers.

In the morning, I advised the dealer of these circumstances; he replied, he knew she was a "slaverer," but not a bit the more unsound for that, and he dared me to write a certificate that she was; for, although she "frothed" a little while eating, she did not at any other time. I wasted few words upon this man; but gave him to understand that if he refused to take her back, the issue would be tried upon his warranty.

I now tied the mare up without food for six hours, and at the expiration of this time the manger contained several pints of saliva and froth; the swelling of the cheeks also had increased, and the buccal membrane was pallid and infiltrated.

This proved the utter untruth of the dealer's remark, that she only "slavered" while eating. She did not, I will admit, discharge so much when without food as she did while eating; but the quantity secreted and wasted under either circumstances quite surprised me.

As the mare was fortunately not paid for, the worthy dealer again consented to become her fortunate proprietor, naming one condition as a *sine quâ non*, viz., that he should have a certificate of unsoundness. This I did not hesitate to write.

Seeing the dealer a few days since, I was prompted to inquire into her history. He said, first, with a chuckle of half-suppressed pleasure, accompanied with a few knowing winks, that he sold her again in a day or two for a pound more than she fetched at the sale;—that she was in his possession for two or three weeks, and was always in the way referred to; but, that a few days ago, she died "raving mad" at Romford, or somewhere in that neighbourhood; no doubt in the hands of a similar owner, and on her way to that mart

of marts, Smithfield. I also learned that she had had many masters within the last few weeks.

Remarks.—A careful examination of the molar teeth of this mare proved that no anormal dental cause existed to account for the presence of these symptoms; nor can they be attributed, I deem, to the *recent* administration of mercury. The absence of tenderness and pain during the act of mastication will negative such an hypothesis; although it is probable that the use of, at a somewhat *remote* period, an excess of this mineral agent may have been the original exciting cause of this apparently *chronic state of salivation*.

That it was an affection of some standing is evidenced by the facts, that the dealer had had her in his possession for some few weeks, and had admitted her to be a “slaverer,” but not an “*unsound hanimal*,” and further, that some weeks had elapsed from her leaving my infirmary until her death, during which period I learned she continued to discharge frothy saliva in undiminished quantities.

CONTRIBUTIONS TO VETERINARY MEDICINE.

By W. GAVIN, M.R.C.S., Malton, York.

Necrosis and Fracture of the Tibia.

DEAR SIR,—I enclose you a portion of the radius of a fox-terrier, which came under my care in August, 1847, through the following circumstance. The dog was sleeping in a corn-field while the mowers were at work, when, unfortunately, a scythe came in contact with the dog's left fore-leg, dividing everything to the bone, a quarter of an inch below the elbow-joint, on the inside. In two or three days, notwithstanding all I could do, mortification came on in the toes and paw, gradually proceeding upwards, caused by the division of all the great blood-vessels of the limb. I stated the case to the owner, who intended destroying him; but I prevailed on him to give me the patient, as I wished to try what could be done for the case. The skin on the inside of the wrist was dead, but sound on the outside; which enabled me to get a more favorable flap after I had removed the paw and ends of the radius and ulna (see the broad end of the enclosed bone). I was doubtful of having left a greater

amount of dead tissue on the inside of the leg than the patient could manage, as the skin covering the portion of the radius I send you was gone, and I had every reason to believe the periosteum would be dead too. When the skin sloughed away, this proved to be the case. I used poultices occasionally, but mostly tepid water dressing, with lint and oiled silk; and in two months the half of the radius came away, and in a little longer time the wound healed, leaving an excellent stump. I kept him a good while. He could run about very well, and killed rats and quarrelled with his neighbours just as before.

The case of fracture I had in May last (15th), occurred accidentally in the field. The fracture was in the left tibia, oblique and compound, the lowest point being a little above the hock, where the sharp extremity of the superior half of the bone slightly protruded through the skin.

17th.—Swelling has subsided. The cow has milked and does milk very well. Reduced the fracture, and enveloped the leg, hock, and thigh, in thick gutta-percha, assisting it on the outside by a strap over the seat of the division.

June 1st.—Steps on it.

18th.—Steps firmly on it. Removed the gutta-percha in suspicion of maggots: there are a good many. The skin between the end of the superior half of the tibia and the gutta-percha, from the inclination of the limb and consequent pressure, is gone by ulceration; the end of the bone is dead, and covered on each side by prominent granulation; the wound is pretty large; the end of the dead bone is somewhat behind the union of the living ones. There is a little healthy supuration.

22d.—Part of the granulations has sloughed away.

28th.—Much in the same way; bone parted; she walks well.

September 18th.—Wound externally presents much the same appearance. The sequestrum is attached at its superior portion only; so that detachment has proceeded from below upwards.

October 10th.—The principal and a smaller sequestrum came away last week, and are lost in the field, where I cannot find them, otherwise I should have enclosed them. The wound from whence they issued will not now admit a finger. The callus is principally above the wound, and large; protrusion of the end of the dead portion prevented, of course, its being enclosed. The leg is only slightly crooked, the animal being otherwise no worse. From first to last the pa-

tient has had no fever, and has done very well for the owner, as far as milk is concerned ; presenting a great contrast, in this respect, to analogous injuries in the human subject.

Very truly yours.

To the Editor of "The Veterinarian."

SIR,—As your Journal has ever been open to the just complaints of the profession, I beg your insertion of the following, being perfectly contented to leave your readers to judge with what fairness some of its members are treated by Mr. Cherry, the principal veterinary surgeon to the army. This not being the only instance of unjustifiable deduction to which my bills have been subjected, I am induced to complain. I attended for the 11th Hussars, when quartered in Sheffield, and my last bill, which amounted to £1 10s., was for attendance on a brown charger belonging to Major Douglas, which, by some accident, had dislocated the patella. When the bone had been replaced, and the more inflammatory symptoms had subsided, the horse being excessively lame, one or two blisters were applied to the stifle, and the animal recovered. My account of £1 10s., certified by Mr. Gloag and the officer in command, was forwarded to Mr. Cherry, from whom was received the subjoined reply :—

Clapham Rise ; Oct. 8th, 1852.

SIR,—I cannot admit charges for attendances on a dislocated stifle, as none would be necessary beyond that for its replacement. For that surgical operation I have allowed 10s. 6d.

I am, Sir, your obedient servant,

F. C. CHERRY, P.V.S.

J. W. Cloag, Esq., Veterinary Surgeon, 11th Hussars.

Now, Sir, I should be glad to know, what means Mr. Cherry adopts in such cases, so that his services are not required beyond a first visit?

I am, Sir, yours most obediently,

B. CARTLEDGE, V.S.

Market Street, Sheffield ;
Oct. 15th, 1852.

To the Editor of "The Veterinarian."

SIR, —On reading the observations of Mr. Hodgson, in your last number, relating to expansion, I was not a little surprised to find that gentleman making allusions to a theory, published by me in a pamphlet on 'Expansion,' in the year 1848, without any reference to its author.

The portion I allude to in particular is, "that there is no descent of the sole or expansion of the crust, except from growth."

This theory he will find (as nearly as possible in the same words) explained in my little book.

I trust Mr. Hodgson will have the kindness to acknowledge it through the medium of your valuable Journal.

I beg also to inform the profession, that I decline any controversy on the subject of expansion in your publication, as I propose bringing out a Second edition of the Physiology of Expansion early in the ensuing spring.

I shall thank you for the insertion of the above in your next publication.

I have the honour to be, Sir,

Your most obedient servant,
A. C. SHAW, V.S., 3d Dragoon Guards.

Cahir Barracks; Oct. 14th, 1852.

HÆMATURIA IN A CART-MARE.

By Mr. W. A. CARTWRIGHT, M.R.C.V.S., Whitchurch, Salop.

April 28th, 1852, 11 P.M. — Mr. Ackers, of Marbury, came for me to see a black cart-mare, 21 years of age, that he thought was not well. She had been ploughing gently part of the day; was broken-winded; and had not been looking quite so well for some time past. Since she left her work at six o'clock, she had been pawing a good deal, and occasionally lying down; but had not been violent, nor had ever rolled over: abdomen not swollen. It was supposed to be a bowel complaint. On the 20th of June, 1844, I attended her for an attack of black-water, which was cured in a few days. The owner said her water was now good. Gave an aperient antispasmodic drink. Raked her; the fæces were hard. I remained with her for four hours, when she appeared relieved by the medicine, as she stood still in no apparent pain.

29th, 10 A.M.—She has remained easy, eating occasionally a little hay, in which state she has continued all day; bowels not acted on.

30th.—The owner came to me this morning, in a great hurry, to inform me that her urine was now very black. I accordingly went over, and found her urine as black as any I had ever seen in a cow; and besides, it had a very peculiar strong smell. Her pulse was slow and debilitated; mouth moist; conjunctivæ of a biliary colour; bowels still rather constipated; eats a little hay; will not drink any water of any importance. General appearance depressed. Give Ant., P.T. ʒj, Opii, ʒss; Aloës, ʒj, every four or five hours. I analysed the urine when I got home, and found it very alkaline. It contained also a great proportion of blood. It did not settle or throw down any blood by standing. On applying Acid. Nitric., a great proportion of it formed a brown coagulum, leaving only a little yellowish liquid at bottom. The same took place on boiling some in a bottle in a saucepan. I applied a mustard plaster to the loins.

May 1st.—The urine is now evidently thicker, and shows a considerable part of it to be blood. It does not coagulate as from the neck; but still part of it is in a curdly state, and of a venous hue, and has the very peculiar strong smell before spoken of. On introducing my hand up the rectum, I cannot detect any calculous or other disease in the bladder or kidney. Is in no apparent pain, but droops; eats a little hay, oats, and vetches; ears occasionally cold. This morning I gave Ol. Ricini, Oss; Aloës B., ʒv; to be kept warm. At night, she had a ball composed of Plumb. Acetat., ʒj; Opii, ʒss; Hyd. Chlor., ʒss; and another to be given the first thing in the morning.

2^d May, 2 P.M.—Fear she is a good deal worse. Pulse almost imperceptible at the jaw, and but weak at the chin. Bowels are now very moist, and just as I could wish. Conjunctival membranes slightly yellow. Is weak, and walks about very indifferently, and I fear is sinking. Took her into the stackyard, when she picked a little grass; but she soon left off doing so. We pulled a little up for her and put it into the manger, and left her eating it. Her urine is now very much altered, being the colour of clay (drab), and very thick, and has the same peculiar smell; one would think it was just such as would be produced by a disorganised kidney, and of the total breaking up of it. As the bowels are now acting, leave her alone till morning.

3^d.—This morning the owner called to say, she was a good deal better. I saw her at 12 M. Her urine has no appear-

ance of blood in it; it is of a dirty muddy drab colour, but nothing like so thick as it was yesterday. Is purging well; pulse more distinct; and her appearance better altogether. She drank plenty of water last night, and eats now some hay. To be left alone.

From the last date to the time of her death (the 9th), I never heard of her, and I concluded she was going on well. I have been since told that her urine, most of the time, had become the same as usual, and that she had fed better, and was thought to be getting well; though, for the last two or three days, she had not been quite so well. As I before stated, she was broken-winded, and all along her respiration continued too quick and laboured. But all this was attributed to her being broken-winded; and no notice was taken of her lungs, though her breathing became worse a few days before she died.

Post-mortem examination.—On the 10th, 9 A.M., I examined her. The *left kidney* weighed 4 $\frac{3}{4}$ lbs., and was double its natural size. When dead she lay upon her left side, and this side of the kidney was of a blue-black hue, which extended a little way into its cortical substance. After removing the capsule, the kidney appeared mottled, drab and brown, and streaked with inflammation, and of a sickly, unhealthy colour. The interior of the cortical substance was, I fancy, a little softer than usual. The medullary part seemed tolerably sound. The pelvis and tubes leading into it contained a little mucus; and on pressing the kidney, a drab-coloured secretion was forced into the pelvis. Both the cortical and medullary substance had a fibrous appearance. The *right kidney*, I should think, was in a like state, and weighed 6lbs. There was but little blood in the body, as if drained by the discharge from the kidneys. The *liver* was not diseased to any noticeable degree, though it was a little discoloured: but that might have proceeded from being dead twenty-four hours. The *adipose matter* throughout the body was of a yellowish bilious colour. The *lungs* were much diseased, being very much hepatised in places, like pleuro-pneumonia in cattle; and in other places, in a state of suppuration.

FISTULOUS PAROTID DUCT IN A YEARLING COLT.

By the SAME.

ON the 27th of April, 1852, I was called in to attend a very excellent grey yearling colt, the property of Mr. Jones,

of the brewery in this town, that had a small wound on the side of his neck. I was told that about four months ago, he got his head fast in between the "boosy stake" and a board, and that in the course of a month after, a large abscess formed in, or in the neighbourhood of, the parotid gland, and had left the present opening. The gland is now of its natural size, and healthy. The opening is situated at the upper angle of the off jaw, near to the lower part of the gland. The discharge is but slight, and is of the consistence of pus, more than of the supposed slimy salivary secretion. From the nature of the accident and the time it has existed, I was inclined to believe it was a fistula of the parotid duct. I put a tent of Ung. Hyd. Bichlor. in it, and on the 30th, I put in another.

May 1st.—Injected the aperture, and could plainly hear the fluid gurgling into the mouth.

3d.—It is discharging more than it did; but still the issue is not of that slimy nature that I should have expected it to have been. It has no bad smell. Applied the cautery.

4th.—Still discharges. Cleaned the orifice, and passed a thread suture from side to side, and drew the opening close, and blistered around it.

6th.—Suture broke out.

7th.—Discharging. Apply cautery.

11th.—Discharging. He has been kept up; but as the opening continues to discharge, he was this day turned out again, and directed to be left alone, to see if the sinus will close.

14th.—Has been out at grass since last date, and now appears as if he was not well in health; he seems dull, and staggers about as if affected in his head and spine.

The throat and parotid gland I almost fancy are a little sore, though nothing of much moment. The owner believes he is "out of sorts" from my applications. Some large long worms have come from him in his dung. Gave a dose of physic, which operated well; but no worms made their appearance.

21st.—His slight staggering gait is better. This day Mr. Hales, V.S. of Oswestry, being up here in attendance on the North Salopian Cavalry, I got him to look at the colt. To prove that it was a fistulous parotid duct, I injected some bole and water, which shortly made its appearance in the mouth. The discharge is the same, and but small in quantity, even while feeding. From the quantity, colour, and appearance of the discharge, Mr. Hales almost doubted whether it really was a fistulous parotid duct; yet he could hardly

think it could be anything else. He advised it to be occasionally injected with gr. v (of Argent. Nit.?) to ℥j of water; but as his head and spine had apparently been recently affected from some cause, I declined interfering with him for the present, and therefore left him out at grass.

June 3d.—Is now in perfect health; in better condition; and has in a great measure shed his old coat. There is still a slight discharge from the orifice, of a brownish tint, and of a mucous feel, and I should really think it was from the gland. According to Percivall's formula, I made an injection of Argent. Nit., ʒss; Acid. Nitric., ʒj; Aquæ, ℥ij. I got my son to place his finger on the duct as well as he could, about where the pulse is felt, whilst I injected about half the injection. A good deal, I think, passed into the mouth; but I kept forcing it in for about two minutes, and some, no doubt, passed into the gland.

7th.—The injection seems to have had no effect upon the gland, as it is not in the least swollen. Discharge about the same. Injected an ounce more, and turned him out.

10th.—Neither glands nor surrounding parts have inflamed in the least. There is scarcely any discharge at the orifice; it seems plugged up; perhaps, with a slight slough.

16th.—The hair below the wound is matted together; but there is scarcely any discharge from the orifice, which is very small. I fancy it will close up. Injected it as before, when some came out at the mouth.

19th.—The opening is larger, as if from sloughing. Once more injected it as before.

20th.—The opening and discharge are about as usual; not the least better.

July 1st.—Just the same as ever. I could put a crooked probe into the opening, and pass it in a downward direction for two inches or so. Seeing no probability of doing any good by continuing the injections, I now passed two pins first on each side of the orifice, and then drew a metallic ligature around them, in a similar way to treating exomphalus, and turned him out.

2d.—The ligature was on, this day in the evening.

3d.—At night, it was out; by some means, and most likely by rubbing with the toe of his hind foot, he had got it out; or, he might have rubbed his neck against something.

4th.—At night, I saw him for the first time after I had put the ligature on, and there was not the least appearance of inflammation of the parts as from injury by rubbing, but it was just the same as when I put it in. The orifice was nearly dry, and small.

In consequence of there being many flies about, it was thought best to leave it to Nature for the present, to see if it would now close up, after the various applications.

About the month of August it was found to be closed, and is so at the present time.

I have felt surprised that the discharge should be so small, and yet the orifice would not close up sooner.

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

ELEMENTS OF VETERINARY HOMŒOPATHY; EMBRACING HINTS ON THE APPLICATION OF HYDROPATHY; OR, A TREATISE ON THE DISEASES OF THE HORSE AND COW; WITH REMARKS ON THE GENERAL MANAGEMENT AND PRINCIPAL DISEASES INCIDENTAL TO THE SHEEP AND HOG. By W. HAYCOCK, V.S., Member of the Veterinary College, Edinburgh. Aylott and Jones, Paternoster Row, London, 1852; 8vo, pp. 438.

“Believe me, I speak as my understanding instructs me, and mine honesty puts it to utterance.”

SHAKESPEARE'S *Winter's Tale*.

PROFESSING neither knowledge nor faith in Homœopathy—the want of one, Mr. Haycock would say, being the lack of the other—it might well be inquired of us, what right or pretensions we had to undertake the review of a work on the subject: such being reasonably inferred to be our intention, when the book upon our table is introduced to our readers' notice under the heading of “Review.” Nevertheless, such is not the case. We can have no such thought after the confession we have made. What we purpose is, to lend a hand in giving publicity to certain “New Views in Pathology,” Mr. Haycock ascribes to himself the credit of having “developed;” and in doing so, in the first place, to examine how far they be *new*; and, in the second, how far they be *sound*. In the “First Section” of the “First Part” of the work, treating of “Diseases of the Skin,” we find, in a catalogue of

of diseases, which admits of amplification, a cutaneous affection named, by Mr. Haycock,

“ Acute Irritation of the Skin.”

It is said to be a disease that has been called into existence by the introduction of “clipping;”—one coeval with that practice which has now become a custom with us,—though one which, for our own part, has never come under notice. Our author’s account of it is as follows:—

“I have given the above designation to an affection of the skin, which I have never seen described, nor even alluded to, by any one who has hitherto written upon equine disease. It is an affection which occasionally is somewhat common. It never prevails except during the clipping season, and it only affects those horses which have been clipped; at least, I have not met with it at any other period of the year, nor upon horses under any other circumstances. It is an affection which I found very difficult to cure when I treated my patients upon the old method; but with homœopathic treatment I have hitherto found it to succumb very readily.

“Symptoms.”—The disease is characterised by a general soreness of the entire skin. If the observer attempts to place his hand upon the body of the animal, it shrinks away with great fear. Sometimes the soreness is so very excessive that it is dangerous to hastily approach the poor brute; he will kick and resist handling in every possible way in which he can. The skin is dry, and the hair feels very dry and harsh to the touch; in some cases, a great number of elevations will be found upon the skin in the regions of the neck, the breast, upon the inner surfaces of the fore limbs, upon the haunches under the abdomen, and around the hind limbs from the stifle joints to the hoofs. The appetite is sometimes very much impaired, and the pulse becomes increased in the number of its beats; but, generally speaking, neither the appetite nor the pulse is much affected. Sometimes again, it is associated with swelling of the limbs and chapped heels, and also swelling of the sheath in horses.

“I will here select a case which will furnish the reader a good example of the form and conditions under which it is generally presented.

“November 11th, 1850, I was requested to attend upon a pony, the property of J. Batley, Esq., solicitor, in this town.

“History, &c.”—The animal in question is about twelve hands two inches in height, of a black colour, and well bred.

About a week ago it was clipped, and in the course of four or five days after the operation, it was observed to shrink very much if the groom or any one attempted to handle it; and this morning it was found so much worse in the above respect, that I was requested to attend it.

- “ 1. The pulse and respirations are normal.
- “ 2. The appetite is by no means good. It eats a little now and then; neither does it partake of much water.
- “ 3. The dung it parts with is dry-looking and scanty, and the urine is also scanty and thick.
- “ 4. It is very much afraid of being handled. If I attempt to lay my hands upon it, it retreats to the far end of the stall, and gathers itself together.
- “ 5. Upon the skin in the region of the neck, also between the inner surfaces of the fore limbs, upon the sides of the abdomen, under the abdomen, upon the haunches, and around the hind limbs, are a great number of hard elevations about the size of a small pea.
- “ 6. The fore limbs are swollen from the knees downwards, and the hind limbs from the hocks downwards, and within the hollow of the heel of the right fore limb is a deep crack or fissure which stretches across the skin and discharges an offensive matter, the left heel is also slightly chapped.

“It is difficult to accurately determine the cause of the attack in the present case, unless it arose from the sudden exposure of the skin. Previous to its being clipped, it was perfectly healthy; and since then it has been regularly used and fed as before, while the weather has remained upon the whole very fine (considering the period of the year) during the last six or eight days.”

TREATMENT, homœopathic.

Seventh among the enumerated “Diseases of the Skin” stands *Scarlatina*: for the first notice, or, what people are so fond of calling, the “discovery,” of which, the veterinary world are indebted to Mr. Percivall. Mr. Haycock says, “his (Mr. P.’s) description, however, is very incomplete, and, as a matter of course, very unsatisfactory.” And well it might be, or, at least, less complete than the one before us, Mr. P.’s account having been written in 1840, and Mr. H.’s in 1850; ten years of observation and experience and reading having

been thereby gained by the latter. Our author's accurate description of this rather uncommon disease we recommend to the very attentive perusal and study of our readers : it is the following :—

“*Simple Scarlatina*.—This form of the disease usually appears in association with epidemic catarrh; it seldom, or perhaps never, manifests itself simultaneously with epidemic catarrh, but usually on the third, fourth, and even as late as the sixth day after the commencement of the former. The animal affected with catarrh will, perhaps, be fed and left at the usual hour at night in what may be considered a fair way of recovery, but when the attendant enters the stable on the morning following, the patient may be found affected in a very peculiar manner; the hair about the neck, the fore and hind limbs, will be elevated in blotches, while the limbs themselves will be found in a swollen condition. The blotchy elevations, generally speaking, are not large, but they are exceedingly characteristic of the malady. If the hand be passed lightly over them, scarcely any corresponding elevations can be felt upon the skin beneath. The mucous membrane of the nose will have upon it a few scarlet spots of variable size; the pulse, in some instances, will be increased in action considerably, while in others, even when the disease appears more severe, not so much. If the epidemic catarrh, or the disease under which the patient labours, be attended with soreness of the throat, the soreness of the throat may become greatly increased, or it may not. Sometimes the blotchy elevations are confined to the hind limbs, and the scarlet spots to the membrane of one nostril, while in other cases all these symptoms are present, but in such a very mild degree as not to excite the attention of any one but a closely-observing practitioner. If at this stage of the disease the animal be judiciously treated, and the stable be dry and comfortable, the whole may pass off in a few days without any further mischief ensuing; but if the treatment be improper, the stable cold and damp, and the animal otherwise unfavorably circumstanced, it is probable that the disease will become more virulent, and either assume the *malignant form*, or pass into what is called “*Purpura Hæmorrhagica*,” and the life of the animal, in either state, become greatly endangered.

“*Malignant Scarlatina*.—This form of the disease may appear either at once in all its virulence, or it may follow upon the milder states above described. The patient for

some days may have manifested what is usually considered to be influenza, or epidemic catarrh, the symptoms of which will, for the most part, consist of sore throat of an obstinate nature, with fever more or less severe, with cough, loss of appetite, discharge of purulent matter from the nostrils, and general debility; when suddenly the whole changes, the limbs begin to swell, which swelling presents either an even surface (occupying the whole of the limbs), or it appears in lumps, or in masses, which are both large and numerous, also hot, hard, and painful, while those portions of the skin free from such swelling presents the blotchy elevations so common to the simple form of scarlatina. The membrane of the nose becomes also covered with large sized spots of an intense scarlet colour, while from the nostrils is discharged a mixture of blood, purulent matter, and serum. At this stage the soreness of the throat becomes excessive, accompanied, of course, with a corresponding degree of difficulty in swallowing; the cough also becomes worse, and of a suffocative character. The pulse increases in number, reaching at times 90, or even 100 beats per minute, and is always of a weak or feeble character. The swollen limbs are excessively tender, and if the patient be left alone he will stand for hours nailed, as it were, to one place, and in one position; it is only, indeed, with the greatest difficulty that he can be made to move at all. As the disease proceeds, or assumes more intensity, large blisters, or vesicles, appear upon the limbs, particularly around the joints; these vesicles burst and discharge a bright amber coloured fluid, which is very corrosive in its effects upon the adjoining skin. In other cases again, some extreme portion of the organism, such as the ears, for example, will suddenly present a blanched appearance, the skin of these organs will shrink, and become hard and dry as though frozen, and in the course of a day or two these blanched portions snap off, leaving exposed a raw surface, which speedily suppurates. The appetite entirely disappears, and the secretions from the bowels, as a matter of course, become checked, and what is denominated *constipation* ensues; the urine also becomes scanty, and is of a thick yellow or of a brown colour. In the course of twenty or twenty-four hours from the commencement (and in many cases even less), the scarlet spots on the membrane of the nose enlarge and pass into purple-coloured patches, and these purple patches slough and leave a raw surface, from which is secreted an abundance of purulent matter: at the same time a similar sloughing goes on around the joints where the blisters, or vesicles, first appeared. If the animal

goes on favorably the fever will generally abate (in the milder states at least) about the fourth or fifth day from the commencement of the more acute stage, while in the more malignant kinds it is seldom that a change for the better occurs before the seventh or eighth day. In the most severe forms, however, purpura hæmorrhagica supervenes, and the patient becomes an emaciated and loathsome looking object.

“*Complications.*—Scarlet fever sometimes becomes associated with rheumatism, with congestion of the lungs, with a low typhoid state of fever, with typhoid inflammation of the lungs, and with purpura hæmorrhagica.

“*Prognosis.*—If the pulse of the patient falls or becomes reduced in the number of its beats within a given time—if the appetite gradually improves, and the debility disappears—if the swollen limbs gradually reduce in size and the skin becomes cooler, a favorable termination may be expected; but if the debility becomes more marked—the pulse more irritable, feeble, or indistinct—the limbs more swollen, with other symptoms, such as total loss of appetite, difficulty of breathing, from an insidious typhoid inflammatory action going on with the lungs; and finally, if purpura hæmorrhagica sets in, the prognosis is unfavorable, and the chances are that the patient will die.

“*Causes.*—The disease in question is generally manifested ‘epidemically, or as an epizooty among horses,’ during the spring and summer months,* so that its remote causes are difficult to arrive at; its exciting causes, however, appear to depend upon those states of bronchial and laryngeal disease so common during the periods of the year above named. I have known it to supervene upon an attack of strangles, and upon what is designated ‘influenza.’ Animals of all ages are subject to its influence. One of the most severe cases I ever had under my care, occurred in a foal three months old. It may be stated, however, as a general fact, that young horses are more liable to the disease than old ones, and that during its prevalence exposure of horses to cold and wet is very likely to induce it.”

Among “Diseases of the Organs of Respiration,” constituting Section II, we find “Spasm of Larynx” set down, and indeed treated of, as a primary or idiopathic affection. Here we are completely at variance with Mr. Haycock. We never saw, nor heard of before he made mention of it, such

* “This fact, I believe, was first noticed by myself.”

a disease but as *secondary*, or rather symptomatic of some distinct and acknowledged genus or species of disease. We believe it to be occasionally present as a *symptom* of acute laryngitis; nay, in the most severe forms of that disease, we believe it to be by no means an unusual accompaniment; and we give Mr. Haycock the credit of bringing it, as such, before the notice of Veterinarians, by most, if not by all, of whom, it has been omitted to be noticed; or, if noticed, to be mentioned. We annex Mr. Haycock's account of it (stopping short at the homœopathic treatment) *verbatim*:—

“ Spasm of the Larynx.

“ It is somewhat surprising that an affection possessing the importance of the one which I shall now treat upon should, up to this hour, be without place, and in truth without mention, in our systematic works professing to treat upon veterinary medicine and veterinary pathology; yet such is the truth—a truth which becomes the more surprising when we find that the omission cannot be said to arise from the want of data whereon to assign it a place in our literature; for the volumes of ‘*The Veterinarian*,’ and the ‘*Veterinary Record*,’ published during the last ten years, to my certain knowledge, abound with facts attesting the actuality of the disease. This affection may with propriety be regarded as one of those sequences greatly to be dreaded during the acute stage of laryngitis and strangles. It may arise from inflammation, or irritation going on within, or directly acting upon the larynx itself; or from a distant source of irritation acting upon the organ from an impression conveyed in a reflex manner by one or more of the numerous nerves which terminate within the tissues of the laryngeal apparatus.

“ *Symptoms.*—The symptoms of spasm of the larynx are of so evident a nature as to warrant me in saying that they declare themselves, and that too in the most decisive manner. Sometimes the disease manifests itself in a moment, as it were, with a most terrible severity—the animal begins to gasp for breath—the eyeballs protrude and present a wild haggard appearance—the nostrils are dilated to their utmost extent—the nose is protruded, and the neck is carried in a line with the back—the flanks heave with most excessive violence, and every time the poor beast inspires air, a sound is emitted which will vary in its character and intensity, according to the vigour of the spasm. Sometimes it will be loud and shrill, sometimes a kind of scream, at other times

like the loud twang from a trumpet—or it may be rasping, snoring, or like that elicited when sawing wood. As the disease proceeds, the general symptoms become more violent—the mucous membrane of the mouth assumes a purple colour—the animal becomes partially unconscious—he rushes wildly from place to place, as though seeking in vain for aid—the body becomes suffused with a streaming perspiration; at last the spasm is either suddenly relieved, which is very rarely the case, or he falls heavily to the ground, struggles for a few moments, and then dies completely asphyxiated. If the disease supervene upon an inflammatory attack of the organ, the symptoms in such cases, for a short period at least, will most probably be of a milder character. A partial spasm of the muscles will manifest itself, which may exhibit just such a degree of violence as to excite alarm and nothing more, when the whole will gradually subside and leave the patient in a very tranquil state; in a short time, however, may be in two or three hours, or more or less according to circumstances, it again commences and continues for a longer period, or it goes on increasing in violence, until either relief is afforded surgically or the patient dies.

“*Causes.*—The causes are numerous and varied; it may arise from laryngitis;* from strangles;† from the presence of pedunculus tumours growing at the base of the tongue, and its mass occasionally going in immediate contact with, or falling into the larynx;‡ from the formation of an abscess in immediate contact with the larynx;§ from the presence of an abscess at the root of the trachea;|| from choking; from the formation of an abscess within the hollow space at the junction of the head with the neck, (I have treated many cases of this kind both in young foals and horses of three or four years old;) and in some instances the disease is manifested without any detectable cause.”¶

In Section V, “Hysteria” arrests our attention. This Protean and versatile disease, one so strangely connected, as it no doubt is, with the state of the womb, though pathologically regarded must rather be referred to the head—this well-known human affection (we had almost written *affectation*) Mr. Haycock conceives he has seen a case or two of in the mare: his friend, Mr. Johnson, suggesting to him the

* See “THE VETERINARIAN” for 1844, p. 29.

† *Ibid.* for 1843, p. 131.

‡ *Ibid.* for 1843, p. 68.

§ *Ibid.* for 1845, p. 557.

|| *Ibid.* for 1849, p. 392; and for 1850, p. 423.

¶ See ‘Veterinary Record,’ vol. vi, p. 42.

analogy between the disorder in the animal to that in the human being. Hurtrel D'Arboval is the only veterinary author we remember just now to have described the same thing. The occurrence being a sort of *rara avis* in nosology, we shall copy Mr. Haycock's account, without being convinced, in our own mind, that our nomenclature has, in this instance, received a *legitimate* addition :

“ *Hysteria*.

“ I have ventured to append the above name to the head of the present article to designate a peculiar affection which I, on three occasions, have had to treat in mares, the like of which I have never been able to read any account of either in our veterinary journals or our best treatises upon horse pathology. The analogy of the affection in question to hysteria, was first suggested to me by my friend and excellent practitioner, Mr. James Moore, V.S., of Manchester, and from what I am enabled to gather respecting the disease hysteria from Dr. Copland's ‘Medical Dictionary,’ it appears to me that the affection bears a very close similarity, in its broad or general features, to that disease, and on that account I venture to call it hysteria.

“ *Symptoms*.—In all cases of this nature which I have treated, the disease commenced very suddenly; they (the subjects thereof) began to exhibit an unusual degree of restlessness—to perspire profusely, which symptoms or states were speedily succeeded by a disposition to lie down—by great sluggishness, loss of motor power in the hind limbs—violent spasm of the large muscles of the loins and hind quarters (the gluteal muscles were excessively cramped) and the shoulders; the pulse in two of them rose from sixty to eighty beats per minute, and the respirations were greatly increased; they made severe efforts to rise upon their feet, but from the total loss of all motor power in the hind limbs, they were unable to do so; two out of the three every now and then strained violently, and ejected, *per vaginam*, excessive quantities of coffee-coloured urine, which consisted principally of blood; the perspiration was excessive also. In two cases the more violent symptoms subsided for a time; they became cool in the skin, and partook of food and water, but were totally unable to rise; this improvement, however, did not prove of any long duration; they commenced struggling again with renewed violence with the fore limbs, and continued to do so until they died. Both the cases to which I

allude were treated according to the orthodox mode; they were bled, had gentle aperients, antispasmodics, and powerful sedatives, but without avail. The third case occurred not long ago; it was treated homœopathically, and recovered. As the disease is of so rare a character, and as the treatment was new, I will detail the case, and enable the professional reader to judge for himself as to its nature and general character."

For "the case" we must refer to the work itself.

Setting aside its homœopathic doctrines and therapeutics, the work we have been examining is one that recommends itself on the score of its being the production of a talented and observant veterinarian—a man who has neither slumbered nor idled at his post; but, on the contrary, has diligently spent his time in collating cases and transient occurrences in practice; and out of facts therefrom deduced, has formed a groundwork, upon which we would fain have seen a superstructure of a different character from the one he has erected upon them. Notwithstanding this, however, the book is of a stamp which certainly makes us feel that we, as *Allopathists*, have lost a man out of our ranks, who, whether he enrich the homœopathic cause or not, had it in his power, in our present pauperised and apathetic literary condition, to materially aid us in the advancement of veterinary science. Had Mr. Haycock been—as, alas! it cannot be denied, too many of our members are—an *apathist*, he would never have turned homœopathist. It is in his devotion and love for his profession that he, in a sanguine hope of being able to do more, has turned away from the broad and tried road pursued by the regular practitioner, to follow a bye-lane which the Medical Colleges, and Schools, and Professors have, one and all of them, seen reason to denounce as a *methodus medendi* not a whit better than the *médecine expectante* of the foreign, or the *vis medicatrix naturæ* of our own school.

Shaw's Self-Cleaning Currycomb.

THUS is entitled a new invention, which has recently been registered, and a happy enough idea it is;—one, indeed, not likely to have entered the head of anybody save either an

employé of the stable, or a frequent visitor thereto. It really is, what its name indicates, a "self-cleaning" currycomb; since, by a simple contrivance, which we will endeavour to make understood, it frees itself in a moment from all matters that may collect in it and clog it up; thus rendering itself, after use, a clean comb again. This is effected by the addition, to the ordinary currycomb, of a cover, like the lid of a box, made to shut down upon its teeth; which project through corresponding lengthened slits in the cover, so completely that the comb curries with the cover down as effectually as it would without a cover, or as the common currycomb does. The hinges of the cover are riveted to one side of the comb, while to the other is fixed a little catch, which keeps the cover down during use. Whenever the comb requires cleaning, therefore, the groom has no more to do than to lift up the cover, which, by means of the slits through it, embracing closely each toothed plate as it opens out, rids them perfectly of all scurf and dirt, and thus renders the comb clean without any occasion for hammering or knocking the currycomb upon the pavement of the stable, as is commonly done; though, in case that also be required, the other side of the comb is provided with "knockers," or hammers for that purpose.

We have had the invention tested; in other words, we have had the new currycomb used in the stable, by as many as a dozen persons or more, from whom we have received (as always happens in cases of the kind) almost as many opinions. Some highly approve of it, finding great advantage in having their comb so easily and so readily cleansed; while others fancy it is "heavy" and "clumsy," notwithstanding it weighs no more than a couple of ounces heavier than the common currycomb. For our own part, we like the self-cleansing principle of it; and, though we will not go so far as to say, that, on the same principle, improvement may not still be made, we augur well of the present invention, on the ground, if on no other, of its being a *start* in an attempt to improve the old currycomb: an ancient stable utensil which it might prove, to the curious in such matters, rather interesting to trace the history of.

Foreign Department.

MONOGRAPHIC ESSAY ON VERTIGO OR TURNABOUT IN SHEEP.

By M. REYNAL, Chef de Service de Clinique at the Alfort School.

FROM a paper on this subject, read before the Academy of Medicine, M. Reynal deduces the following *résumé*:—

1. That turnabout is a disease of the nervous system, occasioned by a worm—the *cænuries cerebialis*, belonging to the hydatid family.

2. Generally lambs, from the age of two months, or from four to twelve months, become the subjects of it; comparatively rare at the age of from fifteen to eighteen months, and beyond this period, only as exceptions to the general rule.

3. The progress of the disease is tardy, though uninterrupted; ending in atrophy of the brain and spinal marrow.

4. Of the first stage, the effect is great loss of flesh; of the second, death.

5. In the rank of principal causes of the production of turnabout, I place—

a. Hereditariness. Ewes and rams having the disease, transmit it to their progeny.

b. Intercourse between the sexes too prematurely, especially the employment of a ram for tugging no more than six or eight months old, as is the practice in some parts of the country.

6. The way to guard against turnabout consists—

a. To put out of the breeding-fold both females and males that have shown any signs of the disorder;

b. And not to breed from ewes under the age of thirty months, nor from rams under fifteen or sixteen months old.

7. And if there be any binding conclusions to be drawn from the influence of a first fecundation on succeeding ones, we ought to put away from the flock females who, though in apparent health themselves, have once produced diseased stock.—*Recueil de Méd. Vét.*, Mai, 1852.

INOCULATION A PREVENTION OF PLEURO-PNEUMONIA.

THE *Belgian Independance* contains an announcement of a Dr. Willems having made the above discovery, and put it

to the test of confirmation, through a series of experiments, in which he has been unremittingly engaged from 1850 down to the present time. By his method of procedure, 108 cows and oxen have been completely protected from contagion; whilst of 50 which have been placed under exactly the same circumstances, without previous inoculation, 17 have caught the disease. Dr. Willems has, in a spirit of loyalty, put the Government and the country into possession of his discovery; the result of which has been, the appointment of a Committee, besides the formation of a special reunion, to take the matter into their consideration.

Dr. Willems' mode of procedure is quite simple, consisting *in inoculation for pleuro-pneumonia*. And the way in which this is practised, consists in taking virus from an animal suffering under the disease, and inserting it underneath the tail of a sound ox. This done, certain morbid phenomena become manifest; while the subject of them is thereby rendered completely unassailable by any epizootic influences of the disease in question.

M. Bouley remarks, touching the above, that, as yet, sufficient evidence has not reached us to pronounce on the efficacy of this prophylactic; wherefore, for the present, we withhold any opinion on the matter. All that we can now say is, that the Committee appointed in France, at the instigation of the Minister of Agriculture, for inquiry into this disease, have, for some months, as their reports can testify, been engaged in experiments, with the view of ascertaining whether inoculation be an efficient preservative against peripneumony. To which point the Committee have found their attention drawn by the fact of beasts, which have once had the disease, either through spontaneous origin, or contracted from cohabitation, not being liable to take it a second time.—*Recueil de Méd. Vét., Mai, 1852.*

DILATATION OF THE THORACIC PORTION OF THE ŒSOPHAGUS.

By M. MATHIEU, Veterinarian at Aney-le-Franc (Yonne).

AN entire horse, aged, has, within the past twelvemonth, twice been ill, eating but little the while, but salivating in an extraordinary manner; and, in spite of the choicest of food, falling off, for the last four months, very much in condition.

When M. Mathieu first saw him, the horse was excessively

reduced, his belly much tucked up, and was frequently lying down and rising up. The respiration and circulation a little quicker than in health. Ptyalism abundant and continual; saliva frothy; frequent borborygmus; dung-balls coated (*coiffés*) and hard. After making violent efforts to vomit, he at length succeeded in ejecting through the mouth and nasal cavities semi-liquid alimentary matters. The act of vomition is uniformly accompanied with a very violent coughing. Exploration of the mouth, throat, and cervical portion of the œsophagus, failed to discover any anomaly. When cold water is offered the patient, he, for a minute or two, continues swallowing it; then is seized with violent efforts of vomition, vomiting through the mouth three pints or more of water, and through the nose half a pint more of alimentary matter, soaked through with water and saliva, the hard cough accompanying the act; with which the abdominal muscles appear to have nothing to do, whilst the inferior cervical muscles are energetically contracting.

The horse was recommended to be destroyed.

Autopsy.—Mouth, pharynx, and cervical portion of the œsophagus normal; while in its thoracic portion are discoverable the entire morbid changes.

For an extent of seven inches, immediately anterior to its passage through the diaphragm, the œsophagus presents, along its inferior part, an immense dilatation (sort of *craw*) between the right and left lobes of the lungs. This sac has an opening superiorly measuring, lengthwise, seven inches, and in breadth, from 2-5ths to 4-5ths of an inch. It is continuous with the œsophagus, and is convex inferiorly, bulging in its middle parts, being altogether of the form of the lower half of the cod-bag of a ram. There is nothing to make us believe it to be of recent formation. It will contain about $3\frac{1}{2}$ pints of fluid. At present there is about a pint of water within it, holding in suspension some particles of forage and a few grains of barley, which have undergone no change beyond maceration. The muscular coat of the œsophagus, above the sac, is double its natural thickness, growing thin as it approaches the sac, upon which its fibres spread out and divaricate. The sac is lined by the mucous coat, which grows thinner as it issues from the tubular parts, and in being spread over it loses its rugæ. The portion of œsophagus between the sac and stomach, about $1\frac{1}{2}$ inch in length, is anormally dilated, forming a tube through which matters within the stomach may easily regurgitate into the sac. The stomach presents no lesion. It is contracted, and contains only some portions of forage. The case, therefore, was

one of laceration and dilatation of the œsophagus; in the part, in a state of health, the least susceptible of dilatation;—of hypertrophy of the fleshy coat at this part;—of the formation of a sac, lodged between the lobes of the two lungs;—of augmentation of the calibre of the terminating portion of the œsophagean tube, which will account for the vomiting. But, did the matters ejected through the mouth and nose come from the sac or the stomach, or from both sac and stomach? I believe myself in the first of these hypotheses, and for these reasons:—1. That autopsy showed the stomach free from alteration. 2. That the abdominal muscles appeared to me unconcerned in the acts of vomition. 3. That the sac being large enough to hold nearly three pints of fluid, and that after the horse had drunk, the fluid, returned by the mouth, being about three pints. Thus, physiologically, one might conceive that, through the influence of a deep inspiration, the lungs, being at the time greatly dilated, the sac might be compressed and emptied, and so they become the active agents of vomition.—*Rec. de Méd. Vét., Mai, 1852.*

CONSIDERATIONS AND EXPERIMENTS RELATING TO CONTAGIOUS DISEASES.

(*Lectures delivered to the College of France by M. Magendie.*)

IN these lectures, M. Magendie's object has been to examine into the *channels through which deleterious substances find admission into the animal economy.*

Respiration is the principal one. Through it we are continually exposed to the action of gases, vapours, emanations, virulent and caustic poisons, germs and seeds, the ulterior development of which may entail mortal results. The majority of substances thus introduced are of a nature to alter the composition of the blood, and disturb its vital operations.

The vapours have divers chemical compositions. Some there are which have the power of quickly extinguishing the nervous energy. And although not many of them possess this fatal property, it no less becomes our duty to inquire into their mode of action. At the head of these we must place prussic acid, a substance so volatile that it condenses while evaporating. Magendie illustrated this by experiment. He mixed, in a conical vessel, a spoonful of medicinal prussic acid in combination with three-fourths of alcohol and one-

fourth of the acid. He then took a rabbit and held its nose to the mouth of the glass vessel, so that it was fully exposed to the vapour rising from the mixture. The animal became convulsed, and in a few seconds died. In this case, the blood of the rabbit became impregnated with the gas of the acid, without the pulmonary vessels being involved. The lungs are constituted of a myriad of tubes, whose membranous walls being extremely thin and porous, have the property of being permeable to vapour. The vapours arising from the blood in the same manner pass out, constituting the pulmonary transpiration. This may be plainly seen by introducing phosphorous into the blood. As soon as the blood containing it arrives at the lungs, it escapes by respiration, the animal breathing opaque white vapours, consisting of phosphorous acid, which inflame in contact with air. This continual evaporation is no hinderance to the air coming in contact with the blood circulating through the pulmonary capillary vessels. What is without may pass into the blood, and *vice versâ*.

These phenomena command the utmost attention from medical men. It is of the greatest importance to know the composition of the air we respire, since so many diseases are in this manner produced. And though we with difficulty arrive at any certain knowledge of the miasms rising in marshy grounds, from the decomposition of putrid vegetable and animal matters. There can be no doubt whatever of their entering into the blood through the medium of the air, and so producing grave disease. In some countries especially such affections rage with extreme intensity; in hot humid climates, and particularly on the sea-coast and borders of certain rivers, as for instance the Gulf of Mexico, Vera Cruz, New Orleans, &c. Such causes of disease admit of demonstration; since, by introduction of them into the blood, experimentally, may be produced, though not exactly the *yellow fever*, symptoms bearing the greatest resemblance to it, with black vomit and speedy death. Lower Egypt, where the plague formerly prevailed so alarmingly, owing to such causes, has been rendered comparatively rare by the improved condition of the country.

What we observe in such insalubrious countries and situations abroad as these, is apt but too often to present itself in our dissecting-rooms at home. In spite of every precaution to disinfect such places, and retard the putrefaction of the bodies in them, every year we have a certain number of dissecting pupils seized with the low fever, called at the present day *typhoid*.

A very curious experiment has served to show the facility with which miasms enter the blood through the respiratory passages. For a long time it has been the opinion of M. Magendie, that the pulmonary mucous membrane did not extend through the extreme ramifications of the bronchi; an assertion rebutted by several anatomists, on the score of the mucous linings of canals extending throughout these cavities, and that, if the pulmonary membrane could not anatomically be proved to do so, it was on account of its extreme tenuity. In proof, however, that his opinion was well founded, M. Magendie experimented with a virulent poison called *curare*, which was known to take no effect on mucous surfaces, but to pass through the stomach and intestines unaltered in its properties, although when placed in contact with a vascular surface, the smallest particle of it occasions instant death. With this he smeared the interior of the bronchial tubes without producing any effect; though when he reduced the poison to very fine powder, and contrived the gradual introduction of it into the air-cells, where it underwent solution, then its poisonous effects became manifest, furnishing confirmatory evidence of M. Magendie's theory of their anatomy.

A proof, as has appeared all along, that respiration is the principal and the most common channel through which miasms enter the blood, is, that animal matters in a state of putrefaction, introduced into the stomach, do not prove destructive. Some carnivora, the dog and the wolf, are fond of putrid flesh. Certain men have the same craving. There are some who live on human flesh. And we know, by many, game that is called *high* is preferred to that which is fresh.

If human industry has for a long time made us acquainted with the means of neutralising the effects of putrefaction, the stomach has ever possessed this property in an eminent degree, and this, doubtless, is the explanation of our being able to eat viands in a putrid condition. M. Magendie has made this the subject of some very curious experiments. Fifteen grains of blood in a state of putrefaction, giving off ammonia and sulphuretted hydrogen, was injected into the jugular vein of a dog. The effect was great disturbance of all the functions—of the brain, the circulation, and locomotion—and the animal died in twelve hours. Here, death could not be owing either to the ammonia or the sulphuretted hydrogen contained in so small a quantity of blood. A second experiment is, introducing underneath the skin of a dog a couple of drachms of putrid water, in which stale fish had been. The simple absorption of this proved sufficient to bring on rapid death. In both these cases, after death, the

lungs proved greatly injected; the blood within the large vessels was deep black and hardly coagulated, and resembled much currant-jelly. Frequent repetition of these experiments led the learned professor to the conclusion, that whenever putrid matter, in any quantity, is introduced into the system, the blood, losing its characteristic properties, becoming unfit for circulation through the lungs, death ensues.

With a view of ascertaining if *the gastric juice possesses any influence in counteracting the deleterious effects of putrefaction*, M. Bernard, after having contrived to obtain some of this juice through means of a stomach fistula, mixed it with an equal quantity of putrid blood, leaving them together for eighteen hours, and then injecting the mixture into the jugular vein of a dog. The animal giving no signs of having felt anything amiss, the conclusion was come to, that gastric juice was endowed with the power of *neutralising* the deleterious action of the putrid ferment. Spallanzani had already shown, that gastric juice was an antiseptic; this observation shows more, that the same juice has the power of robbing putrid matters of their hurtful qualities.

Under certain conditions putrid miasms prove highly active.—These conditions are—a sufficient quantity of the miasm, an elevated temperature, and, we must add, individual susceptibility.

We readily understand, that, for the production of the disease, it is necessary that *the miasm should exist in sufficient quantity*, spread about in the air, that the air reach the lungs sufficiently saturated for it to become introduced into the system. The heat also, at the time, ought to be perceptible and continuous. Yellow fever does not prevail in cold seasons. In countries where the air is warm and humid it is, that putrid fermentation actively proceeds and acquires all its baneful properties. Mr. Magendie, in his experiments, found that more putrid matter was required to take effect in cold than in hot weather. In addition to which, every individual has his peculiar insusceptibility (*resistance propre*).

So that the cause of diseases called, not without reason, *putrid*, is to be sought in the introduction into the circulation of putrid matters, be they in the liquid form, or in that of gas or vapour.—*Union Médicale*.

Home Department.

THE ORIGIN OF VETERINARY SCIENCE IN GREAT BRITAIN.

(Continued from p. 464.)

By Mr. R. VINES, late Demonstrator of Anatomy at the Royal
Veterinary College.

[From his 'Veterinary and Physiological Essays' corrected from the 'Lancet.']

It has been judiciously remarked by one of our able writers that "Veterinary science, considered in its application to domestic animals, is bounded only by the sphere of their usefulness. It applies in a degree to every individual who keeps a horse or a dog, for business or recreation, and it comes home to the humane feelings or private interests of all classes of men; *but wide as this field appears, and uncultivated as it may be in many parts*, it is not to the study, the treatment, and cure of *animal disease alone*, that this science is strictly confined. Second only to human medicine in actual importance, *it possesses considerable advantages over it, and offers opportunities for the cultivation of general physiology and pathological knowledge*, and more particularly for that branch of science termed comparative anatomy, that are far superior to those which the medical practitioner can boast.

"There are difficulties, certainly, in the pursuit of this peculiar science, which, perhaps, counterbalance the advantages; and having received less attention, its advancement is proportionately small: but it should not be forgotten that the *ancients*, as well as the *moderns*, who have distinguished themselves by important discoveries, have found them in dissecting the bodies of animals, having always recourse to comparative investigations and experiments, to extend the bounds of medical and surgical knowledge; thus *transplanting to the medical profession the honour of discoveries which were made in trenching upon ours*.

"Precluded by the laws and superstitions of their times from examining the organisation of human bodies, the ancient professors of the healing art conducted their investigations usually on those of brutes, and thus became familiarised with their *structure and diseases, in a greater degree than with those of men*. Of course, their practice was directed to the complaints with which they were best

acquainted; accordingly, we find that human and veterinary surgery started hand in hand; and at first it was evident that the *professions were united*, and considered *equally worthy* of attention. Aristotle alone, by dissecting the bodies of animals, with a powerful, active, and unprejudiced mind, arrived at discoveries which forestalled the labours of future centuries. Hippocrates, Celsus, and Galen, drew their knowledge of anatomy and physiology from the same source. When Rome arrived at its height of luxury and refinement, the professions *first became* distinct, and the veterinary department was studied and practised by men whose works show them to have been no way inferior in *education or attainments to their contemporaries of the human school*. It was then, we may observe, a *profession of respectability and consideration*: but afterwards, in the general ignorance and superstition which prevailed, during the middle ages, it was wholly transferred to the hands of the shoeing smiths; and its sister science, human surgery, experienced a somewhat similar fate, being engrossed by the barbers for a long period: but as the latter is more nearly connected with the interests of mankind, it has resumed much earlier its station among the liberal sciences, which have slowly and separately revived in improvement and estimation. The various causes which have combined to retard the progress of our art, are not now to be considered; but it is only fifty years since, that animal medicine became a distinct profession in this country; and, even yet, the vulgar leech maintains his ground against the modern veterinarian. That great benefit has already resulted from the application of science to this degraded art, will not, we believe, be denied by any; but much still remains to be done: when the successful practice of the *College diplomatist* shall correspond with his high profession, and when the public, rejecting advice and medical interference from *uneducated men*, shall place *full confidence in the veterinary character*, then, and not till then, will it merit congratulation."

That the scientific veterinary surgeon has great difficulties to contend with, no one for a moment will doubt, and more particularly when the public are informed, that at the present day there are numbers who attempt to practise the veterinary profession, and have the impudence to call themselves veterinary surgeons, who have never seen nor entered the Veterinary College during the whole course of their lives. On the other hand, there are those who have paid the fee, and thereby become pupils of that establishment, only with a view of connecting themselves, to a certain extent, with *the real members of the veterinary profession*, and not of studying it

in a proper manner, and afterwards subjecting themselves to a regular examination before the *medical committee*. Some instances are known where such persons as those just mentioned, have availed themselves of attending two or three lectures only, and then, *without any practice in dissecting, or the least knowledge of anatomy*, have launched out into practice, and for want of a proper knowledge of the ground-work of this science, committed gross blunders, to the *injury of the public*, and the *disrepute of the real veterinary surgeon*, who has carefully studied the principles of his profession. Again, there are persons who are in the habit of compiling works on veterinary subjects for booksellers, and who style themselves *veterinary surgeons*, but who have just as much—and no more—pretension to the designation than a bookseller has to being called a *physician*; and we mention this the more particularly, because we have been informed by some highly respectable booksellers, that there is a certain individual in that trade who has *attempted to write* several veterinary works, and sent them forth to the world *as those of a veterinary surgeon*. It has already been observed, by Veterinary Surgeon Percivall, when speaking on the disadvantages attendant on the introduction of veterinary science, that, in a great measure, it is dependent on “the vile trash diffused in *treatises of farriery*, so truly disgusting to a man of common reflection, that he forms his opinion of the art by those he entertains of the book, and considers it specially adapted to the *genius of his groom or coachman, &c.*”

I have endeavoured to show the manner in which the public are furnished with these sorts of works, and agree with Mr. Percivall, that it is not only injurious to the public, but likewise a considerable disadvantage to the introduction of our science. I also agree with Mr. Percivall as to the impropriety of gentlemen permitting their *coachmen* and *grooms* to have the medical treatment of their horses when suffering from disease, because we are fully aware, and have likewise endeavoured to show, that, without a proper knowledge of *anatomy* and *physiology*, no one will be ever able to practise the veterinary profession with *benefit* to his employers and *credit* to himself. The late Strickland Freeman, Esq., when speaking of the impropriety of intrusting uneducated men with the treatment of horses when under disease, very properly observes — “In farriery, practice is often attempted where theory is totally unknown: whenever this happens, that branch of business may be considered in the same state of perfection that surgery had attained when barbers were the general practitioners. At that time, considerable practice

was joined to an almost total ignorance of the construction of limbs! The same general observations which the Earl of Pembroke has made in regard to horsemanship, may also be applied to the art of farriery. ‘Practice alone,’ as that noble author observes, ‘can never insure perfection.’ But to use the Earl of Pembroke’s expressions, the knowledge of it is vulgarly thought so familiar and so common, that you can hardly meet with a man who does not flatter himself he has succeeded; whereas, *every science* is **FOUNDED UPON PRINCIPLES**, and theory must indispensably be necessary. A blind and boundless presumption is the *characteristic of ignorance*,—the fruits of long study and application amount to a discovery of innumerable fresh difficulties, at the sight of which a diligent man, very far from overrating his own merit, redoubles his efforts in pursuit of further knowledge.” Mr. Freeman further observes—“The late Earl of Pembroke says, ‘whoever lets his groom or coachman ever even mention anything more than water-gruel or clyster, or a little bleeding, and that, too, very seldom, or pretend to talk of the *nature of the feet*, of the seat of *lameness*, *sicknesses*, or *their cures*, may be certain to find himself very shortly, and very deservedly, *quite on foot*.” Yet how often do we find such men intrusted, not only with the care, but with the medical treatment of large and valuable studs of horses; and so confident of their own skill in the treatment of disease as never once to think of calling in a veterinary surgeon, until the animal is in such a state as to be nearly, or entirely, past recovery.

Professor Coleman, in the first number of *Veterinary Transactions*, in the year 1801, remarks, “This numerous and formidable class of opponents are, too often, the sole and supreme directors in their masters’ stables. The horses are usually *shod*, *bled*, and *physicked*, *when and where*, and in any manner, the groom recommends; and even those gentlemen who pay considerable attention to the treatment of horses, are frequently overcome by the constant opposition of their grooms or coachmen.” There can be no objection to such men becoming veterinary surgeons, because it has often happened, that, in consequence of their having received *a regular course of instruction*, and obtained a knowledge of the *principles of this science*, they have afterwards gone into practice, and become skilful practitioners. Our object, indeed the duty which we owe to the *public*, the *science*, and *ourselves*, is, to expose all vain pretensions, error, and quackery; and, by so doing, ultimately increase the respectability of the profession, and advance the science also.

BONE DISORDER IN COWS.

WE have frequently seen accounts, in various papers, of "bone disorder in milch cows." The bony structure of animals is composed of vital solids studded with crystallisations of saline carbonates and phosphates, and is liable to take on morbid action similar to other textures. Disease of the bones may originate constitutionally, or from derangement of the digestive organs. We have, for example, *mollities ossium*, (softening of the bones.) The disease, however, is very rare. It may be known by the substance of the bones being soft and yielding, liable to bend with small force.

We have also *fragilitas ossium*, (brittleness of bones.) This is characterised by the bony system being of a friable nature, and liable to be fractured by slight force. We have in our possession the fragments of the small pastern of a horse, the bone having been broken into seventeen pieces by a slight concussion, without any apparent injury to the skin and cellular substance: not the slightest external injury could be perceived.

There are several other diseases of the bones which, we presume, our readers are acquainted with; such as *exostosis*, *caries*, &c., neither of which applies to the malady under consideration. We merely mention these for the purpose of showing that the bones are not exempt from disease any more than other structures; yet it does not always follow, that a "lack of the phosphate of lime in cow's milk is a sure sign of diseased bones."

Reader, we do not like the term "*bone disorder*:" it does not throw the least light on the nature of the malady; it savours too much of "*horn ail*," "*tail ail*,"—terms which only apply to symptoms. We are told also that, in this disease, "*the bones threaten to cave in—have wasted away*." If they do threaten to cave in, the best way we know of to give them an outward direction is, to promote the healthy secretions and excretions by a well-regulated diet, and to stimulate the digestive organs to healthy action. If the bones "have wasted away," we should like to have a few of them in our collection of morbid anatomy. That the bones should waste away, and be capable of assuming their original shape simply by feeding bone meal, is something never dreamt of in our philosophy.* Besides, if the cows get well, (we are told, they

* Whenever there is a deficiency of carbon, bone meal may assist to support combustion in the lungs, and by that means restore healthy action of the different

do,) then we must infer that the bones possess the properties of sudden expansion and contraction similar to those of the muscles. It may be well for us to observe, that not only the bones, but all parts of animal organisation, expand and contract in an imperceptible manner. Thus, up to the period of puberty, all parts expand: old age comes on, and with it a gradual wasting and collapse. This is a natural result—one of the uncompromising laws of nature, over which human agency (bone meal included) has not the least control. If the bones are diseased, it results either from impaired digestion or a disproportion between the carbon of the food and the oxygen respired; hence the “bone disorder,” not being persistent, is only a result—a symptom; and as such we view it. As far as we have been able to ascertain the nature of the malady, as manifested by the symptoms, (*caving in, wasting, absence of phosphate of lime in the milk, &c.*) we give it as our opinion,—and we think our medical brethren will agree with us,—that “bone disorder” is a symptom of disease very prostrating in its character, originating in the digestive organs; hence not confined to the bones, but affecting all parts of the animal, more or less. And the only true plan of treatment, consists in restoring healthy action to the whole animal system. The ways and means of accomplishing this object are various. If it is clearly ascertained that the animal system is deficient in phosphate of lime, we see no good reason why bone meal should not be included among our remedial agents; yet, as corn meal and linseed contain a large amount of phosphate, we should prefer them to bone dust, although we do not seriously object to its use.

The value of food or remedial agents consists in their adaptation to assimilation; in other words, an absence of chemical properties. These may be very complex; yet, if they are only held together by a weak chemical action, they readily yield to the vital principle, and are transformed. Atoms of bones are held together by a strong chemical affinity; and the vital principle, in order to convert bone-dust into component parts of the organism, must employ more force to transform them than it would require for the same purpose when corn meal or linseed was used, their chemical affinity being weaker than that of bones.

In the treatment of any disease, we always endeavour to ascertain its causes, and, if possible, remove them; and whatever may be indicated we endeavour to supply to the system.

functions, provided, however, the digestive organs, aided by the vital power, can overcome the chemical action by which the atoms of bone meal are held together.

Thus, if phosphates were indicated, we should use them. In cases of general debility, however, we should prefer linseed or corn meal, aided by stimulants, to bone-dust. Why not use the bone-dust for manure? The animal would then have the benefit of it in its fodder.

In reference to a deficiency of phosphate of lime in the milk, we would observe, that it may result either from impaired digestion, (in such cases, a large amount of that article may be expelled from the system in the form of excrements,) or the food may lack it. We then have a sick plant, for we believe that the phosphate of lime is as necessary for the growth of the plant as it seems to be for animal development. If the plant lacks this important constituent, then its vitality, as a whole, will be impaired. This is all we desire to contend for in the animal, viz., that the disease is general, and cannot be considered or treated as a local affection.

It has been observed that successive cultivation exhausts the soil, and deprives it of the constituents necessary for vegetable development. If so, it follows that there will be a deficiency of silicia, carbonate of lime—in short, a loss of carbon, hydrogen, nitrogen, and oxygen, not of phosphate of lime alone.

The fields might be made to produce the requisite amount of nutriment by replacing every year, in the form of animal excrement, straw, wood ashes, and charcoal, as much as we remove from them in the form of produce. An increase of crop can only be obtained when we add more to the soil than we take away from it.

“In Flanders, the yearly loss of the necessary matters in the soil is completely restored by covering the fields with ashes of wood or bones, which may, or may not, have been lixiviated. The great importance of manuring with ashes has been long recognised by agriculturists as the result of experience. So great a value, indeed, is attached to this material in the vicinity of Marburg, and in the Wetterau—two well-known agricultural districts,—that it is transported, as a manure, from the distance of eighteen or twenty-four miles. Its use will be at once perceived, when it is considered that the ashes, after being washed with water, contain silicate of potass exactly in the same proportion as in the straw, and that their only other constituents are salts of phosphoric acid.”

It is well known that phosphate of lime, potass, silicia, carbonate of lime, magnesia, and soda are discharged in the excrement and urine of the cow; and this happens when they are not adapted to assimilation, as well as when present

in excess. If it is clearly proved that the bones of a cow are weak, then we should be inclined to prescribe phosphates; if they are brittle, we should prescribe gelatinous preparations; but not in the form of bone dust: we should use linseed, which is known to be rich in phosphates and gelatine. At the same time, the general health must be improved.

It is well known that some cows cannot be fattened, although they have an abundance of the best kind of fodder. In such cases, we find the digestive organs deranged, which disturbs the equilibrium of the whole animal economy. The food may then be said to be a direct cause of disease.

The effects of insufficient food are well known; debility includes them all. If there is not sufficient carbon in the food, the animal is deprived of the power of reproducing itself, and the cure consists in supplying the deficiency. At the same time, every condition of nutrition should be considered; and if the function of digestion is impaired, we must look to those of absorption, circulation, and secretion also, for they will be more or less involved. If the appetite is impaired, accompanied by a loss of cud, it shows that the stomach is overloaded, or that its function is suspended: stimulants and tonics are then indicated. A voracious appetite indicates the presence of morbid accumulations in the stomach and bowels, and they should be cleansed by aperients; after which, a change of diet will generally effect a cure. When gas accumulates in the intestines, we have evidence of a loss of vital power in the digestive organs; fermentation takes place before the food can be digested.

The cure consists in restoring the lost function. Diarrhœa is generally caused by exposure (taking cold), or by eating poisons and irritating substances: the cure may be accomplished by removing the cold, and cleansing the system of the irritants. Costiveness often arises from the absorption of the fluids from the solids in their slow progress through the intestines; exercise will then be indicated. An occasional injection, however, may be given, if necessary. General debility, we have said, may arise from insufficient food; to which we may add the popular practice of milking the cow while pregnant, much of which milk is yielded at the hazard of her own health and that of her fœtus. Whatever is taken away from the cow in the form of milk, ought to be replaced by the food. Proper attention, however, must be paid to the state of the digestive organs: they must not be overtaxed with indigestible substances. With this object in view, we recommend a mixed diet; for no animal can subsist on a single article of food. Dogs die, although fed on jelly; they

cannot live upon white bread, sugar, or starch, if these are given as food, to the exclusion of all other substances. Neither can a horse or cow live on hay alone: either will, sooner or later, give evidences of disease. They require stimulants. Common salt is a good stimulant. This explains why salt hay should be occasionally fed to milch cows; it not only acts as a stimulant, but is also an antiseptic, preventing putrefaction, &c.

A knowledge of the constituents of milk may aid the farmer in selecting the substances proper for the nourishment of animals, and promotive of the lacteal secretion; for much of the food contains those materials united, though not always in the same form. "The constituents of milk are cheese, or caseine—a compound containing nitrogen in large proportion; butter, in which hydrogen abounds; and sugar of milk, a substance with a large quantity of hydrogen and oxygen in the same proportions as in water. It also contains, in solution, lactate of soda, phosphate of lime, (the latter in very small quantities,) and common salt; and a peculiar aromatic product exists in the butter, called butyric acid."—*Liebig*.

It is very difficult to explain the changes which the food undergoes in the animal laboratory, (the stomach,) because that organ is under the dominion of the vital force—an immaterial agency which the chemist cannot control. Yet we are justified in furnishing the animal with the elements of its own organisation; for, although they may not be deposited in the different structures in their original atoms, they may be changed into other compounds, somewhat similar. *Liebig* tells us that, whether the elements of non-azotised food take an immediate share in the act of transformation of tissues, or whether their share in that process be an indirect one, is a question probably capable of being resolved by careful and cautious experiment and observation. It is possible that these constituents of food, after undergoing some change, are carried from the intestinal canal directly to the liver, and that there they are converted into bile, where they meet with the products of the metamorphosed tissues, and subsequently complete their course through the circulation.

This opinion appears more probable, when we reflect that as yet no trace of starch or sugar has been detected in arterial blood, not even in animals that have been fed exclusively with these substances.

The following tables, from *Liebig's Chemistry*, will give the reader the difference between what is taken into the system, and what passes out.

Food consumed by a Cow in Twenty-four hours.

Articles of Food.	Weight in the fresh state.	Weight in the dry state.	Carbon.	Hydrogen.	Oxygen.	Nitrogen.	Salts and earthy matters.
Potatoes .	15000	4170	1839.0	241.9	1830.6	50.0	208.5
Aftergrass .	7500	6315	2974.4	353.6	2204.0	151.5	631.5
Water . .	60000	—	—	—	—	—	50.0
Total	82500	10485	4813.4	595.5	4034.6	201.5	890.0

Excretions of a Cow in Twenty-four hours.

Excretions.	Weight in the fresh state.	Weight in the dry state.	Carbon.	Hydrogen.	Oxygen.	Nitrogen.	Salts and earthy matters.
Excrements	28413	4000.0	1712.0	208.0	1508.0	92.0	480.0
Urine . .	8200	960.8	261.4	25.0	253.7	36.5	384.2
Milk . . .	8539	1150.6	628.2	99.0	321.0	46.0	56.4
Total	45152	6111.4	2601.6	332.0	2082.7	174.5	920.6
Total of first part of this table . . }	82500	10485.0	4813.4	595.5	4034.6	201.5	889.0
Difference .	37348	4374.6	2211.8	263.5	1951.9	27.0	31.6

Food consumed by a Horse in Twenty-four Hours.

Articles of Food.	Weight in the fresh state.	Weight in the dry state.	Carbon.	Hydrogen.	Oxygen.	Nitrogen.	Salts and earthy matters.
Hay . . .	7500	6465	2961.0	323.2	2502.0	97.0	581.8
Oats . . .	2270	1927	977.0	123.3	707.2	42.4	77.1
Water . .	16000	—	—	—	—	—	13.3
Total	25770	8392	3938.0	446.5	3209.2	139.4	672.2

Excretions of a Horse in Twenty-four Hours.

Excretions.	Weight in the fresh state.	Weight in the dry state.	Carbon.	Hydrogen.	Oxygen.	Nitrogen.	Salts and earthy matters.
Urine . .	1330	302	108.7	11.5	34.1	37.8	109.9
Excrements	14250	3525	1364.4	179.8	1328.9	77.6	574.6
Total	15580	3827	1472.9	191.3	1363.0	115.4	684.5
Total of first part of this table . . }	25770	8392	3938.0	446.5	3209.2	139.4	672.2
Difference .	10190	4565	2465.1	255.2	1846.2	24.0	12.3

The weights in these tables are given in grammes. 1 gramme is equal to 15.44 grains Troy, very nearly.

It will be seen from these tables that a large proportion of carbon, hydrogen, oxygen, nitrogen, and earthy matters are again returned to the soil. From this we infer, that more of these matters being present in the food than were requisite for the purpose of assimilation, they were removed from the system in the form of excrement. Two suggestions here present themselves for the consideration of the farmer, viz., that the manure increases in value in proportion to the richness of food; and that more of the latter is often given to a cow than is necessary for the manufacture of healthy chyle.

In view, then, of preventing "bone disorder," which we have termed *indigestion*, we should endeavour to ascertain what articles are best for food, and learn, from the experience of others, what have been universally esteemed as such, and by trying them on our own animals, prove whether we actually find them so. Scalded or boiled food is better adapted to the stomach of animals than food otherwise prepared, and is so much less injurious. The agents that act on the internal system are those which, in quantities sufficient for an ordinary meal, supply the animal system with stimulus and nutriment, just enough for its wants, and contain nothing in their nature inimical to the vital operations. All such articles are properly termed food.—*American Veterinary Journal*, May, 1852.

COLLOQUIA DE OMNIBUS REBUS.

A NEW HOMŒOPATHIC PETITION against the University of Edinburgh has been presented to the Town Council, its Patrons. What do they want now?

Editor. The same favour as formerly; that the Patrons shall compel the University to graduate homœopaths. But the Patrons have wisely shelved the petition by transmitting it *simpliciter* for the perusal of the Senate. It is a pity, however, they did not see they were merely made a catspaw of,—being set to talk about homœopathy at the Council Board, and thus to issue unwittingly a homœopathic advertisement. The originators could have no other aim with such instruments as their petitioners.

Chemicus. Who are they this time?

Editor. Nine hundred and fifteen decent tradesmen, ope-

ratives, and servants, with a remarkable predominance of the feminine gender, and especially a large assortment of housekeepers, cooks, and chambermaids. On this occasion there is neither lord, nor admiral, nor general, nor churchman.

Obstetricus. Is not the Archbishop of Dublin among them?

Editor. No. But they quote him in the body of their petition as one of their backers.

Chirurgus. Then let us leave the matter with the Archbishop and the chambermaids. It is in very safe keeping in their hands.

Chemicus. Reverting to the pestilence of new remedies with which medicine has for some time past been assailed, is there no short-hand way of bringing them to trial and condemnation? No lifetime is long enough to test them in the ordinary way.

Medicus. Test them, in the first place, by the principles of therapeutics, and most of them will be at once disposed of. We have only to look to the classification of known remedies, according to external characters and composition, in order to see that very many modern novelties in the *materia medica* are mere delusions. For remedies so classified possess generic actions, proper to each group, with which the actions of unknown individuals of the same group must in general coincide.

Chemicus. But anomalies in action exist among known individuals of the same natural group. Why not among the unknown?

Medicus. In a more advanced state of therapeutic science these anomalies will disappear one after another. They will be found to be parts of subordinate and intercurrent laws, which may direct the choice of remedies as much as the fundamental laws of the action of natural groups. For even already the existence of these fundamental laws is so well established, and many of the exceptions are so well accounted for, that a strong presumption of the value of a supposed new remedy may be formed by one who has made this interesting subject his study.

Editor. And what is to be done when this test fails, or is inapplicable in the present state of our knowledge?

Medicus. Make trial of such remedies, by all means, and dispassionately; but with jealousy, if their alleged virtues violate the general rule of agreement in family properties; and above all, if they are put forth as specifics,—a term which appears to be used in the present day whenever no reason

can be assigned why remedies act, or why they were resorted to.

Chemicus. I admit that when a remedy is spoken of as a *specific*, the word simply means, that we know nothing of its action. But do you think that, as a general rule, we are likely to be directed to new remedies by the consideration of their family position?

Medicus. Not for the present, perhaps. But such will be the common rule, no doubt, when the medical profession shall, for some five and twenty years, make it their duty, in all civilised countries, to throw their whole force on the study of therapeutics, as has been done with such signal success for pathology during the twenty-five years that are just past.

Physiologus. And meanwhile we are even already not without valuable instances of therapeutic theory successfully guiding practice in the choice of new remedies. Take chloroform for an example. The properties of chloroform were not discovered by accident. Sulphuric ether having been ascertained to be an anæsthetic, all toxicological experience and theory led to the conclusion, that other ethers and etheroids would possess similar properties; and, accordingly, several such substances were found out, and chloroform at the head of them all for energy, safety, and facility of administration.

Medicus. Another excellent illustration is the gradual progress by which we have arrived at the most modern.—*Monthly Journal of Medical Science*, Oct. 1852.

THE VETERINARIAN, NOVEMBER 1, 1852.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

DEALERS in horses, in the country as well as in London, have been, for some time past, growing pretty general and loud in their complaints, that *good* horses are becoming scarce and difficult to be met with; and though, for our own part, we do not feel disposed at all times to lend a willing ear to reports of this nature, from knowing that they are not unfrequently made to suit the purpose at the moment of a time bargain, yet on the present occasion we appear to have reasons

for thinking, they are not altogether groundless. We do believe that, what horse-gentry by, *inter se*, a well-understood appellation, denominate *good horses*, are not so abundant or readily procurable as they were some years ago. And we can the more easily give credence to the alleged fact when we come to reflect on the changes which have been, palpably to every body, taking place in the horse world in the interval between the time when horses of the description in question were plentiful enough and the present day of their asserted scarcity.

The great war in which this country had been for several years engaged with France, at the cost of so many horses as well as men, ended in 1815; but it was not until 1819 that the great reduction of the army took place, owing to a considerable portion of that force having been left in France (in occupation) for three years longer. Nor did this reduction, distributed about the country as the sales of the cast horses of regiments were (and still are), affect the horse-market more than temporarily lowering the prices of good horses, which, up to that time, had been extraordinarily high.

In 1833, the London and Birmingham Railway opened for traffic. This was succeeded by the establishment of other railways; and thereupon speedily followed, as a necessary consequence, the break-up of coaching establishments on the Great Northern and other roads, numbering altogether some thousands of horses,—aye! and of horses which had for years past been becoming of a better and better quality; and which, at the time of the dissolution, had become, in the fast-coaches, in particular between London and Birmingham, and other large towns, of a very superior description. This threw in quick succession into the market numbers of really good horses; and, as the opening of lines of railway continued, and was followed by the establishment of others, embracing a wide sphere of railway traffic, more and more good horses were thrown into the public market: the effect of which was, some years back, that prices sank extraordinarily low, and “prime cattle” were to be seen, degraded in their station, working in our omnibuses and street cabs.

The consequence of such depression in prices was, that dealers in horses, in London more especially, soon found they had not the same sale as formerly for their carriage-stock and hunters, at least at the same high prices; and this, as a matter of course, operated on the country market. As soon as dealers became unable to vend their horses to the same amount or advantage as before, they necessarily found themselves compelled to restrict their purchases from the breeders; nor would the latter be able to dispose of their stock, save under a proportionate fall of price. At this the breeders seem to have taken alarm;—either curtailing their breeding establishments, or breeding a less costly description of horse; and so, either way, diminishing the supply of good horses.

Whether this was or was not the case with the breeders of horses, however, meanwhile came into our horse-fairs a set of new customers—foreigners—who, possessing nowhere in their own countries such cattle as ours, freely and largely made purchase of our best horses, especially of our *mares*, and of some stallions as well, for the purpose of exportation for their own use. To what extent this export trade is at the present time, or has been for some years carried on, we have just now, no means of ascertaining. Certain, however, it is that the trade has been a large one—to the number, probably, of some thousands of horses annually—which alone would be sufficient to render *good horses* scarce and difficult to be “picked up;” and would operate with twofold effect in producing this result, supposing, as we are informed has been the case, that the actual breeding establishments have really undergone retrenchments.

A foreign trade in horses is, to our country, a comparatively novel kind of commerce. It seems to have originated in the surplusage of good horses among ourselves, in combination with the offering of prices by foreign *marchands de chevaux* such as we could no longer, under the circumstances, afford to give for them at home: the stimulus for foreigners to become purchasers being the general superiority of our produce to that of their own countries.

We, however, are not only exporters of horses: we have

become importers as well. For some years past, certain of our second-class dealers and others, have been in the habit of going to the Continent for horses for dray and cart work, but more particularly for what goes by the name of *black-work* (mourning coaches and hearses); and of late they have been seeking other descriptions of horses as well—buying at about £20 a-head or less, five years old and fresh, a description of Flanders horse, not very unlike our Suffolk punch, which turns out to fetch about £5 or £10 a-head more in our market; though it remains to be proved, and becomes very questionable, what sort of workers such horses will turn out compared with our own, and how much *in the end* they may prove cheaper or dearer than our indigenous stock. Whether traffic in horses be advantageous to us as a commercial nation, we will not pretend to say: that is a question of experience, which, give it time, will work its own solution. Our legislature possesses, as over all other commercial transactions, absolute control over this; and can at any time, of course, check it, or even put a stop to it. At present, the trade is all but equivalent to being thrown open, there being imposed but a duty of £1 per horse.

If the present paucity of good horses be occasioned by large exportations, and especially by the abstraction of our best mares, that is an evil which at any time admits of remedy, supposing it be deemed advisable for the legislature to deal with it; or it is one which, it is possible, in the course of time may remedy itself, by the event of good horses becoming too dear even for foreign dealers in horses to become purchasers of them. On the other hand, if the growing paucity can be shown to arise from diminished production as well, then does it become our duty, by way of remedy, to afford all the national encouragement in our power to the breeding of horses, or, at least, to the breeding of *good*, by which we would be understood, useful horses.

PROCEEDINGS OF THE COUNCIL OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

QUARTERLY MEETING OF THE COUNCIL, OCTOBER 11, 1852.

Present—Messrs. GEORGE BAKER, BRABY, A. CHERRY, ERNES, HENDERSON, ROBINSON, and WILKINSON; Professors SIMONDS and MORTON, and the SECRETARY.

Mr. GEORGE BAKER, VICE-PRESIDENT, in the Chair.

The minutes of the previous meeting were read and confirmed.

Letters were read from the Solicitor of the College, respecting the claim of Mr. Barham, stating that that gentleman's legal adviser had not ventured to commence any proceedings to enforce his demand for a return of a portion of the Examination Fee; and from Mr. T. Wells, of Norwich, declining, from inability to attend to its duties, arising from the pressure of professional avocations, the office of Vice-President, to which he had been elected at the last meeting.

Mr. A. Cherry asked what steps had been taken with reference to the resolution of the Council, passed on the 21st of April, instructing the Board of Examiners to vary their divisions and report thereon to the Council.

The Secretary stated, that he reported the notice at a meeting of the Examiners, and begged that it might be taken into consideration; but Professor Spooner urged that, as the resolution was not unanimously adopted by the Council, they (the Examiners) were not called upon to try the experiment suggested.

Mr. A. Cherry thought the Examiners had acted improperly in refusing to acquiesce in the resolution of the Council, which was binding on them, however small the majority by which it was passed. The Examiners were consulted before the by-law relating to the division of the Board was altered, so that the Council might not run the risk of adopting a plan which would not work satisfactorily. He still desired their opinion on the subject, and would therefore move, "That the Board of Examiners be directed to report on the proposal for an alteration in the present arrangement for Examination, in accordance with the minute of April 21st."

Professor Simonds said it was the opinion of the Examiners, that they could not legally try the experiment, as the by-law positively directed that there should be four tables, and not three only, as the resolution stated—a fact that he thought ought not to be lost sight of. Perhaps it would be well for the Examiners to report their opinion only, without trying the experiment.

Mr. Wilkinson contended that no examination of pupils would be legal conducted otherwise than as the by-law directed; and he thought the Council was to blame for having instructed the Examiners to vary their divisions.

Mr. Ernes said, that the Examiners were not responsible for the illegality

of any instructions they received from the Council; their simple duty was to obey them.

Mr. Robinson thought that the Examiners were justified in not acceding to a manifestly illegal request.

After some further discussion on the subject, during which *Mr. A. Cherry* withdrew his proposal, the following resolution was agreed to, on the motion of *Professor Simonds*, seconded by *Professor Morton*, "That a Veterinary Surgeon be added to the Chemical division of the Board to examine on *Materia Medica*, and more particularly on the *modus operandi* of remedial agents."

Professor Simonds proposed the appointment of three trustees, to be empowered to buy in £200 in the Three per cent. consols, or other government security, within the next three months, if they could do so to the interest of the College. The by-law required the appointment of the President and two other Trustees, and he would therefore propose the names of Professor Sewell, Mr. Robinson, and Mr. W. Field. He thought they should not be directed absolutely to buy in at once, owing to the high state of the funds.

Mr. A. Cherry seconded the motion.

Mr. Braby thought the Trustees had better be directed to buy in immediately, as it was not likely that there would be any considerable fluctuation in the funds. He proposed an amendment to that effect, which, having been seconded by *Mr. Ernes*, was put and lost.

The original motion passed *nem. con.*; and on the ballot being taken, the three gentlemen named were declared unanimously elected.

As it appeared by the by-law, that the President of the College must be a Trustee, and that an annual transfer of money from one President to another would be required, which would be attended with some expense to the College. *Professor Simonds* gave the following notice of motion for alteration in By-Law 39, which was directed to be formally suspended for three months: "That three members of the body corporate be appointed Trustees of the College."

On the motion of *Prof. Simonds*, seconded by *Prof. Morton*, it was resolved that tea and coffee should be provided at each meeting of the Board of Examiners.

The *Treasurer* reported a balance in the Banker's hands of £393 3s. 8d., the same as at the last Report.

The *Registrar* had no admissions or deaths to report.

Mr. Robinson urged on the Council the necessity of making an early application for an Exemption Bill, similar to that which was so nearly obtained last year.

The following gentlemen were added to the Exemption Bill Committee: Messrs. Robinson, Field, Wilkinson, and Jas. Turner.

The Committee therefore consists of Messrs. Henderson, W. Mayer, A. Cherry, Robinson, Field, J. Turner, and Wilkinson, Professors Spooner and Simonds, with the President and the Secretary.

Messrs. Ernes, A. Cherry, and the Secretary, were named as the Committee of Supervision.

W. ERNES.

A. CHERRY.

E. N. GABRIEL.

MISCELLANEA.

A TALE OF A DISEASED COW.

WORSHIP-STREET.—Mr. S. Giles, the surveyor of pavements for St. Luke's, stated to the magistrate that, while passing through Bunhill-row about seven o'clock in the morning, he saw a horse and cart drawn across the foot-pavement, in front of a butcher's shop, and in the cart he found the carcase of a cow, in such a state of disease as rendered it totally unfit for human food. Having ascertained that the cart was in the charge of two men who were engaged inside in conversation with the butcher, he entered the shop, where he found two rough-looking countrymen, who stated themselves to be in the employment of a cowkeeper in the neighbourhood of Blackheath, and that their orders were to dispose of the dead cow in the most advantageous manner possible. Whilst passing through Farringdon-street, they were accosted by a butcher, who offered to purchase the animal, which he directed them to convey to the carcase-butcher's in Bunhill-row, for the purpose of having it dressed, and promised that he would meet them there in order to conclude the bargain. Applicant at once directed the immediate removal of the horse and cart containing the diseased animal to the greenyard, and afterwards conveyed the two countrymen to the station-house, but as the inspector on duty did not consider that a sufficient charge had been made out to justify their detention, he thought it advisable to submit the matter to the magistrate's decision.—The magistrate directed Hayward, the warrant officer, to obtain the assistance of a person competent to ascertain the actual condition of the animal, and report the result.—On his return to the court, the officer stated, that the carcase of the cow had been carefully examined by a respectable butcher, who was decidedly of opinion that it was unfit for human food, as it had evidently died a natural death, resulting from inflammation and fever.—The magistrate intimated that, under these circumstances, Mr. Giles would be perfectly justified in directing the removal of the diseased animal to one of the slaughtering-houses, to be disposed of as offal, and that the horse and cart might be delivered over to the owner, after he had reimbursed the greenyard charges and other expenses attending its seizure.—*News of the World.*

ERRATA IN THE LAST NUMBER.

In the "Review," at page 565, line 10, for "*governed*," read "*groomed*."
 In "Leader," at page 591, line last but one, for "*feign*," read "*fain*."

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THE
INTRODUCTORY ADDRESS,

DELIVERED AT THE

ROYAL VETERINARY COLLEGE,

At the Opening of the Session 1852-3,

BY PROFESSOR SIMONDS.

GENTLEMEN,—In accordance with established custom, we are assembled here this day to mark the commencement of another sessional course of instruction, by the delivery of an Introductory Address. Once more within these walls the teachers meet the pupils to enter on their duties in investigating a special branch of Medical Science, applicable to the structure and diseases of all domesticated Animals.

The time has not long gone by, when one animal alone (the horse) was deemed worthy of the employment of the talents of the man of science,—that period, however, has happily passed, never more to return; and now it may be said that this Institution occupies the position which its original founders intended.

The commencement of each new Session is doubtless a time of much anxiety and care, affecting alike those that impart and those that receive instruction. Desirous as may be the teacher, he still questions his power of so arranging and disposing his matter, as to encourage the younger pupil in the pursuit of his studies, while he instructs and advances the elder. And of the pupil it may likewise be said, that he has his misgivings, as to whether he will be enabled to gain that amount of knowledge necessary to secure his entrance into the profession he has chosen.

The excitement, however, of the occasion generally enables both to enter the lists with alacrity; but when this has passed, then the responsibility of their relative positions is

felt, with all its attendant consequences. Nevertheless, let us not fear that our difficulties will vanish as we progress. Nay, of this we are assured, that industry will overcome all obstacles, and render easy such things as at first appeared all but insurmountable.

We may gather many a useful lesson from passing events; and in contemplating the character of that illustrious man, "the Hero of a hundred fights," who has lately been removed from us, we see the distinction that may be arrived at by a free and full discharge of *duty*, and a *steady perseverance* under the most disadvantageous circumstances. And, although it cannot be affirmed that each of you who has now embarked in pursuit of veterinary knowledge, by adopting a similar course, will arrive like him at the head of your profession, yet no doubt can be entertained of your occupying a place both of distinction and respect.

Most of you know that your studies here embrace a variety of subjects; and although some persons might be disposed to question the assertion, I hesitate not to say, that *all* are of equal importance to secure your ultimate success in practice. With extended study you have extended facilities of obtaining information, and thus the advantages you possess are far greater than were enjoyed by many who have gone before you. That Veterinary Science has attempted to keep pace with the science of Human Medicine, is not too much to affirm; with what success it is not, however, for me to state. Already I have alluded to the fact that *all domesticated animals* are now viewed as our legitimate patients; and I can well remember when less was done in a week, within these walls, for the advancement of the pupil, than is now done *daily* during his College probation. Then it was, and to the disgrace of the school, that six months or less sufficed to effect the obtainment of a diploma. Now, two full sessions, extending over a period of two years, must be spent before the pupil is entitled to appear before his examiners. Then the only *practical* men to be found at the examination board were the two teachers of the College; now, in their stead, we have *six* veterinary surgeons of distinguished ability. The examination being thus made more practical, is not the less scientific, as in addition to the distinguished Professor of Chemistry, who acts as the chairman, there are three other gentlemen of the highest scientific attainments, selected from the medical profession. Means are also taken to secure an examination upon each section of the pupil's instruction, and the whole is carried out in the presence of the Professors of the College, who, with the Principal Veterinary Surgeon of the Army, are *ex officio* members of the board.

Instructions likewise are now given on the Anatomy, Physiology, and Pathology of the Horse; on the Comparative Anatomy of the Ox, Sheep, and Dog;—their physiology, and the diseases to which they are subject. On Chemistry and Materia Medica; Veterinary Jurisprudence; the Principles and Practice of Surgery, and the art of Shoeing. Structural anatomy, as the foundation of a correct knowledge of disease, has of late received its fair share of attention, and ere long I hope to see Botany added to the list. Surely these are great improvements.

Whatever may be thought by some, who pride themselves, I suppose, in being ranked with the obstructives, I feel assured that Botany cannot be long excluded. Most of our patients are herbivorous animals, and very many of their diseases are traceable to the plants on which they feed. In the case of sheep, in particular, we often see the devastating results that follow the placing of these animals on grasses surcharged with moisture, and deficient of those nutritive and elementary matters which are necessary to the support of the system. The effects, in certain seasons, of what has been called “artificial food,” are even more destructive. Diarrhœa sets in, as a consequence of a vitiated condition of the blood, and which, from a continuance of the cause, although in a modified form, assumes a chronic type. The alvine dejections are fluid, the patient wastes, becomes a prey to intestinal and other parasites, and at length dies in a state of almost complete inanition.

In the present day, a knowledge of Botany is far more needed than in times gone by, as the system of raising a large product from the soil by the use of artificial manures, has forced itself on the attention of the agriculturist. Thus the plants finding themselves surrounded by an excess of matter, rich in elements that can be appropriated to their development, take up, as it were, more than a due proportion, and are thereby charged with materials prejudicial to animal life, because unassimilated by the vegetable tissue. It needs hardly to be pointed out that the food of herbivorous animals being thus raised, becomes converted into a “kind of poison,” and as such produces its deleterious consequences on the animal organism. We may explain the circumstance, in part, by remarking that we have here a direct violation of that harmonious balance established by nature’s laws in effecting the mutual dependence of the animal and vegetable kingdoms on each other. Many other examples, as illustrative of this point, might be given, but on an occasion like the present, it is unnecessary to multiply instances of the kind. I cannot, therefore, refrain from again expressing my conviction, that Botany will prove as useful an adjunct to veterinary science as chemistry has been found to be.

With reference to chemistry, it may be here asked, what did we know of the nature or treatment of tympanitis, as was forcibly shown by my respected colleague, Professor Morton, in his introductory address of last year, until this instructive, ennobling, and beautiful science came to our aid? It developed to us the important fact, that the gases eliminated in this disease differed according to its duration. That in the early stages carbonic acid was present, while in the latter carburetted and sulphuretted hydrogen existed. And it did even more than this, because it pointed to a ready, safe, and efficacious means of neutralizing and decomposing these destructive agents; so that now the practitioner is enabled successfully to combat this hitherto fatal malady. He puts in operation, in either case, a well-known chemical law, by exhibiting the compounds of ammonia in the early stages, and those of chlorine in the latter. That there are established laws in chemistry, the results probably of certain not well-understood forces, is so generally known at the present day, that it is almost a work of supererogation to mention them; and I do so chiefly to impress on the mind of the pupil the necessity of becoming, by attendance on the lectures and deep study, well acquainted with these laws. Furnished with knowledge of this kind, he will go forth into practice armed with a power which is almost irresistible, and would, perhaps, be completely so in the treatment of many diseases, were not these laws controlled by those termed *vital*.

I pass to another, and also a novel method, by which we are made familiar with the changes wrought by disease in the animal organism, by first becoming acquainted, through it, with the intimate arrangement of the several parts when in a state of health. I allude to the modern achromatic microscope, an instrument which some anatomists and also pathologists profess to condemn, and which, I fear, arises from that love of ease and self-satisfaction, which more or less belongs to every man—the common lot of our fallen human nature. By this instrument we possess, as it were, another sense, for the sense of seeing becomes so vastly increased and extended, that our minds are opened for the reception of facts of which previously we had scarcely a conception. It reveals to us a hidden, because otherwise an invisible world of wonders, so that it is almost impossible to calculate the advantages which the arts, as well as the sciences, will ultimately derive from its use. Its value to medical science is incontestibly shown by the circumstances, that not a school or hospital can be found in this vast metropolis where it is not employed for investigations, both of an anatomical and pathological nature. Some also of the *élite* of the medical profes-

sion, who have grown grey-headed in its service, and where, consequently, it was reasonable to expect most prejudice to novelty, have not only shown their appreciation of the instrument by employing it themselves, but have done their best to introduce it to the favorable notice of others. And I cannot refrain from mentioning, because I see in the circumstance a proof of the advancement of our science, that a year or two since the students of this institution, and they well deserve this name in addition to that of pupils, marked their estimation of its value, by presenting to the demonstrator of anatomy a first-rate instrument of this description.

Alluding to the use of the microscope, Mr. Grainger, in the Hunterian Oration of 1848, thus expresses himself:—"It may be unhesitatingly affirmed that of all the means yet devised for demonstrating the structure of the human body, none are comparable, as to exquisite clearness and distinctness, with those afforded by well-prepared microscopic specimens. No dissection, however minute, no preparation which is the mere production of the scalpel, can approach in delicacy, definition, or beauty, to the results of minute injection or successful sections." In support of this assertion, (he adds,) "I can adduce my own experience as a teacher; and if any further confirmation be needed, I may appeal to those who have availed themselves of the admirable demonstrations delivered within the walls of this theatre. It is a source of sincere congratulation that such ample means of illustration have been thus provided; and as these lectures were established by the Council of the College before I had the honour of being one of its members, I may, perhaps, without impropriety, be permitted to convey to you, sir, as the representative of that body, an expression of thankfulness, not, I feel assured, confined to myself alone, for the adoption of a measure so well calculated to promote a taste for the higher branches of physiological science."

In another part of the same address, he also says, "how readily does the mind apprehend and retain such truths as these; that all discerning organs, whether these are serous membranes, mucous membranes, or glands, have essentially but one structure, that of the epithelial cells; that all organs, muscles, nerves, cartilage, and even epidermic parts, bear one definite relation to the blood-vessels, all being extra-vascular; that formations, apparently the most dissimilar—the salivary glands, the lungs, and the liver—are formed upon one common and readily-comprehended plan." And he goes on to observe, "it must further be remarked, that not only are the leading principles thus stamped with that highest character of truth, *simplicity*, but likewise that

the evidence by which they are made apparent to the mind, through the senses, (namely, by aid of the microscope,) is equally plain and satisfactory." Commendation such as this, and from such a distinguished teacher in medical science, cannot fail to impress every unbiassed mind, and to prove that we, who advocate the employment of this instrument, are the friends to advancement in the right direction.

I might here safely take leave of this part of my subject; but I am desirous of mentioning one other circumstance of very recent occurrence, and which gives additional lustre to these truths, namely, that the Council of the Royal College of Surgeons has founded a new professorship, that of Histology, which they have conferred on that talented and indefatigable microscopist, Mr. Quekett. This act, while it confers a high honour on the recipient, may be truly said to reflect an equal one on the donors. The name of Mr. Quekett is well known, and in him we see another pleasing instance of merit being rewarded, and industry being appreciated.

Thus, gentlemen, I have endeavoured to show you some of the means and appliances by which you can obtain a knowledge of veterinary science. That they are well calculated, if rightly used, to make you successful, as well as scientific practitioners, no one can doubt. It behoves me, however, on this occasion, to enter a little more on details; and to point out what is expected of you, not only by the teachers in this institution, but by those parents and friends who, it may be, in some instances, have lessened their own comforts to further your prospects in life. Some of you are now placed, and for the first time, in a state of comparative freedom and independence. Remember that this position is one of deep responsibility, big with future events; if used aright, it cannot fail to lead to happiness, and raise you in the social scale; if otherwise, it will as assuredly ruin your prospects, your health, and all that man should hold as dear to him. Be especially jealous, at this juncture, in the choice of companions—seek those that are above, rather than those that are beneath you. "Shew me the man's companions, and I will shew you the man," is a proverb no less trite than true.

It is deeply to be regretted that this vast metropolis, amongst all the good, moral, and religious examples it possesses, contains, too, its thousand temptations to allure the young and unwary from the paths of rectitude and virtue. Avoid all these as quicksands placed in your course by him "who goeth about seeking whom he may devour." "Be diligent in your calling,"—industry, as we have shown, is certain of reward; punctuality in the lecture-room is especially expected; and

regularity of attendance on every branch of your studies, in the due order in which they occur. It was both aptly and truly remarked by Dr. Todd, in his inaugural address delivered the other day at King's College, that the dissipated, careless, and indifferent pupils, are those who mar the principles and proceedings of those who would act otherwise.

Then, as to your studies, for you must be students as well as pupils, you need hardly to be told that anatomy is the basis upon which physiology and pathology rest. Without the one, then, the others cannot be acquired; for who would think of attempting to raise the superstructure, until he had satisfied himself that the foundation was securely fixed? Hence we repeat but a truism, in saying that you must first become practically acquainted with the various parts entering into the composition of an animal body, their union and relative position, as well as their mutual co-operation, in effecting the various movements and functions which we observe, when all things are in their normal condition. Fortunate, nay, doubly fortunate are you, that you possess such a teacher and able and experienced pioneer on this subject, as my respected friend and colleague, Professor Spooner, who, in the lecture-room, will unfold these mysteries, and make your way easy and plain before you. The *practical* portion, however, of the subject, must be acquired by your own labours in the dissecting-room, where the analysis, if I may so speak, is to be carried out by the aid of the knife, the forceps, and the text-book. And here, again, you have one to guide you, able and willing to the utmost, possessing a clear head and an indomitable perseverance,—I need hardly name him, for you know I allude to Mr. Varnell.

Allow me one word of digression here:—there is no place where order, silence, and decorum should be more observed than in the dissecting-room; noise and confusion are incompatible with the researches there to be made, they neutralize your own labours, and give offence to those who superintend your studies. In the coming session, let no complaint reach our ears of the conduct of any one within that room. And in this place I would likewise remark, that if you take an equal pride in rendering yourselves as competent anatomists of the ox and sheep as of the horse, using aright the other means placed at your disposal, it may be confidently predicted that, although you may not see during your studies as much of the diseases of these animals as could be wished, you will hereafter become good cattle pathologists; reaping the benefit of your own exertions in a pecuniary point of view, and serving your country's cause at the same time, by protecting no inconsiderable portion of her wealth.

Next to a knowledge of anatomy, I place chemistry; for important as the one may be to a solution of the laws of physiology and pathology, the other is no less so. "There can be no questioning the fact of chemistry having done much for physiology, since with every change in the construction of an organ or a tissue, a corresponding change in function must ensue," says a distinguished writer of the present day. In a former part of this address I have given an example of the benefits which the *materia medica* section of Chemistry bestows in the treatment of the disease called tympanitis; this, however, is but a feeble specimen of the value of the science. There is a division of it, organic chemistry, which contains such a flood-tide of knowledge, that if set at liberty with all its power, it would sweep away, and swamp and drown very many of the generally-received physiological explanations. And why? because it may be affirmed that they are simply hypotheses, not true theories. This portion of the science may be said to be as yet in its swaddling clothes. It is, however, fortunate that the nursing of the infant giant should, within these walls, be entrusted to the able and experienced keeping of one so capable of rearing it to maturity, and who, without doubt, will in due time bring forth its full powers to the admiration and benefit of us all. You, gentlemen, have not a more talented teacher, or a more sincere well-wisher, nor one who labours harder for your success, or who feels more keenly your rejection, when tested by the court of examiners, than my kind, and, I trust, duly estimated friend, Professor Morton.

Those of you who had the advantage of being present last year at the delivery of Prof. Morton's eloquent inaugural address, cannot have forgotten the clear and convincing arguments he adduced in support of organic chemistry. Speaking of the action of the bile and pancreatic fluid in the digestive process, he observed that "to the pancreatic juice has lately been given emulsive properties; its use, therefore, is to combine with and render soluble the fatty matters of the food. This view, however, (he adds,) is not concurred in by Dr. Bence Jones and others, who consider the pancreas as supplementary to the salivary glands, as taught by Lassaigè; and its secretion for the purpose of effecting the full change of the starchy matters into sugar, which does not take place in the mouth. The uses of the biliary secretion are perhaps not more satisfactorily defined than those of the pancreatic. Some physiologists consider it to be the principal solvent of the albuminous parts of the food. Bernard has ascertained that sugar is taken up and carried directly to the liver; and in the bile, by means of the ordinary tests, this principle has

been demonstrated by him to exist. This being the case, it is fair to infer that alcoholic fluids and the allied substances are similarly determined, and then we can easily account for the peculiar condition of liver called "drunkard's liver."

"That the removal of bile from out of the body is of considerable importance, is unquestionable, since by its withdrawal the blood becomes depurated. It is formed from the effete nitrogenised tissues, and is often found very complex in its nature. Tiedemann and Gmelin enumerate no less than twenty-three different substances met with by them in ox gall. How many of these were formed by the processes of analysis resorted to, being *products* rather than *educts*, possibly cannot be told. But this complexity will not so much surprise us, if we view the liver as an *excretory* as well as a *secretory* organ. It aids in the elimination of carbon and hydrogen from the system. These elements are naturally given off from the lungs in the form of carbonic acid gas and watery vapour; but if the lungs from diseases are unable to perform their healthy office, the liver is then called into increased action, and having more than its ordinary duty to perform, this organ, too, becomes implicated. In this way, possibly, its fatty degeneration may be explained, from the accumulation of the elements of fat, carbon and hydrogen in it." Passing from the diseases of the digestive to those of the urinary system, he remarked that "the formation of urinary calculi was to be traced to the metamorphosis urea undergoes when in contact with water and mucus, by which it becomes converted into the carbonate of ammonia, which compound, acting on the lime salts, excreted by the vessels of the kidney a carbonate of lime—the general constituent of these concretions in the herbivora—is found." Thus, gentlemen, you see the important part which chemistry plays both in the normal and abnormal condition of the body, proving thereby that its study, as previously remarked, must receive a fair share of your attention.

Upon such foundations as anatomy, physiology, and chemistry, you have to raise the top stone of the temple, pathology. The principles of this important part of medical science will be taught you in the lecture-room, the application of these has to be acquired in the infirmary, and perfected in the country, after you have ceased to be pupils of this institution. Indeed, to excel in "the art of treating disease," you must continue *students* to the close of your professional career. While here you will but begin that system of observation and reflection upon the ever varying phenomena of abnormal action present in the several stages, types, and forms of

disease which time and experience will have to perfect. See, then, the necessity as well as the importance of cultivating a habit of analysing the symptoms, as they are called, of disease. See, also, the attention that must be given to the clinical remarks of your teachers. See, again, that you must be punctual in your place in the lecture room, while the principles of pathology are being expounded.

I shall have something to say, hereafter, upon the extent of the means afforded by the rules of the College for the acquirement of what is usually called practical knowledge; but it behoves me first to point to those at your disposal, and the way they should be used. However, let me in this place avail myself of the opportunity of congratulating my revered colleague and friend, Professor Sewell, on his presence again among us. We who are associated with him, know how to appreciate the benefits we derive from consultations with him in all cases of difficulty and doubt, and you also will find him ever ready to give you the advantage of his long experience as a teacher. His looks assure us that, with the divine blessing, he may yet be spared many years to win more laurels and gain more honours in that profession to which his long life has been devoted. As you know, for some time past he has ceased to take any active part in teaching; in fact, it may be said that from this duty he has retired,—and hard indeed would it be, nay, a disgrace, if one “easy chair” did not exist as the reward of long service and sterling merit. He sits here this day in the capacity of Senior Professor and Resident Governor of the College, Director of the School, and President of the Royal College of Veterinary Surgeons; and I but speak the sentiments of all present in saying that sincerely do we hope, sir, you will long be spared to enjoy the distinctions you have so richly deserved.

To return. It has not unfrequently been a source of regret to us all, but chiefly to my colleague, Mr. Spooner, who has the care of the equine patients in the infirmary, that so few pupils continue throughout the session to accompany him in his daily rounds. An unusual or novel case will bring around a crowd of curious inquirers, but how soon does the interest begin to subside after the patient is placed within his box. Few there are who care to watch the daily development or subsidence of the symptoms, and fewer still who reason upon the facts as presented. Some content themselves by simply asking what was done yesterday and what is ordered to-day? and many more by hearing the “head groom” say that the animal is better or worse, as it may be. And I fear, also, that there would be no difficulty in finding pupils who

never knew that such a case had been admitted within the Infirmary stables. Is this using the means at your disposal aright? Is this the way to become practitioners of a class to satisfy the public? Let your own convictions furnish the answers.

Doubtless it is thought by many that the larger proportion of the cases are common ones—every day occurrences—and consequently little need exists for them to give that amount of attention we have described. Never was a greater mistake. Are your teachers always sure that the opinions of to-day of these common cases will prove correct to-morrow? How frequently is it that a *re-examination*, even of a case of lameness, negatives the conclusion drawn from the prior examination? These things, when they occur, will be of the greatest possible use to the diligent and inquiring pupil; for depend upon it, an amount of value little suspected by many of you, belongs to every case, common though it be, that is brought under your notice within these walls. Earnestly, then, would I even entreat you to give your strict attention to the hospital practice.

That I may not be accused of giving utterance to my own sentiments alone on this important matter, I will read you an extract from Mr. Spooner's introductory lecture, delivered three years since. "The practice of your profession," says he, "is what may be termed the veterinary art; and of this you must lay the foundation by an unwearied observation of the practice of the college. Doubtless, many of you are already not unacquainted with practice; you will, however, within these walls, enjoy frequent opportunities of extending your knowledge in this department. You will be able to profit by the remarks and practice of your professors; and by taking notes, and comparing them among yourselves, of the cases under treatment in the infirmary; and by participating with your teachers in their feelings of responsibility as to the well-doing of the patients, you will also be very materially benefited. Let me entreat you diligently to cultivate that faculty of observation with which you are all endowed; and very important for this purpose you will find punctuality in your attendance at the College. A punctual pupil gives the first evidence of a determination to learn; a regular pupil loses no opportunity, but watches the cases from day to day, and leaves out nothing which experience can teach him, but carries away a bright copy of it in his head, useful for his future career in life. Therefore, gentlemen, I repeat, be punctual to the hour of College instructions, and also be regular from day to day."

“If there be any old pupil,” he adds, “who now hears me, and whose conscience accuses him of deficiencies in these respects, let him henceforth turn over a new leaf; let him determine to be honest to his time; let the opening of this new session be to him the opening of a new mind and a new course of action. It is not too late for amendment. The vigorous decision to do better will go far to enable him to make double use of his time, and to accumulate useful information with double rapidity.”

Having now explained the several parts taken by my colleagues in conducting your studies, and also given their opinions, as well as my own, as to the share you should take in order to secure success, I will proceed to add a few observations on my own section.

You are fully aware that on me devolves the task of instructing you in the anatomy, physiology, and pathology of all domesticated animals, save the horse. A wide field is this, and one I could have wished had been brought under the culture of a more able tiller than myself, who would not have failed, by good husbandry, to have produced an abundant harvest. However, I am here to do my duty according to the best of my abilities; and self-justice requires me to add, that although an abler instructor might have been found, not one more willing could have been. The importance of this branch of veterinary science was far too long in being acknowledged, but at length the time arrived, and for some few years it has held its proper position within this seminary.

We would even venture to hope that the beneficial effects of our exertions have reached the country; if so, we would view it not as a reward, but as a stimulus to renewed labour. This branch of veterinary science is one that must continue to rise year by year in public estimation, and it cannot, therefore, fail to prove advantageous to those who practise it. Cattle and sheep are every day becoming of more worth to the agriculturist, not only as animals of greater money value, from an improvement in their breed, but because they enable him to raise, by augmenting their number on his farm, a far greater amount of food of all kinds for the people.

The abolition of all restrictive duties between country and country; the removal by man of that which cramps the actions, and neutralises the exertions, and destroys the spirit of independence of his fellow-man, must ever prove a powerful means, in the British Isles, among other things, for a strict attention to be given to the improvement of our native cattle and sheep. Nay, not only will they be improved in quality and aptitude to fatten, but their numbers will be enormously

increased. Twenty years since, and long before these causes came into full operation, it was shown that the aggregate value of cattle exceeded by many thousand pounds that of horses ; what, we may ask, must now be the case ? The saving, then, of any portion of this great wealth converts the subject of a scientific knowledge of their diseases from a professional, or an agricultural question into a national one. We must remember, likewise, that in this country with its ever limited number of acres, we have a rapidly increasing population, which must be fed. And although we may fully agree in the statement of Mr. Spooner, who remarked in the same lecture to which reference has already been made, that better lands will support more stock, for science will make England larger, will virtually stretch it out, we must nevertheless not forget there is a boundary beyond which we cannot pass. It is in these things that we have an explanation of the fact, that the quantity of cattle and sheep is doubled on many farms ; while on others, where these animals had never been kept, save for household purposes as it were, the yards and pastures are now crowded with them. While we reckon, then, our horses by thousands, we have to reckon our sheep and oxen by millions ; and this must ever be the case.

Coming to narrower reasoning, we may say that this branch of our science is of great practical importance, inasmuch that hitherto it has been the stronghold of the charlatan, the farrier, and the cow-leach. We have no wish, however, to conceal the fact that this has arisen as much, or even more, from the long neglect of cattle pathology, as an integral portion of the scientific education of the veterinary student, as from the comparative small value of an individual ox or sheep, and the hesitation, on the part of its owner, to expend much money on its treatment. As I have elsewhere observed, Englishmen have too great a tendency to take a pound, shillings, and pence view of every subject, and so to act that they may not be losers by a speculation, or incur what may appear to be too expensive a plan of managing their affairs ; and that hence *probably* was one of the causes why our cattle and our sheep had so long been entrusted to the care of the uneducated pretender, or the village smith, when disease and death were making sad havoc among them. These men can and do proffer their services for such a remuneration as is impossible for the man of science, and of different standing in society, to do. Doubtless the agriculturist who takes this narrow view of the subject, believes he is adopting a frugal method ; but how often does the sequel prove the falsity of the opinion ? Death sweeps off many animals that superior

skill would have preserved, and even those that recover have their cure protracted by the blunders that have been committed. How frequently do these people exclaim, "oh, my cattle and sheep are getting better ; but they might almost as well have died, for they have been so long ill and are so wasted, that they will cost more than they are worth to bring them into condition again."

The late Mr. Youatt, several years since, when describing the then degraded state of cattle medicine, observed, " that there are two great sources of the mortality of cattle, of sheep, and the loss of agricultural property, and that it is difficult to say which is the worst—the ignorance and obstinacy of the servant and the cowleach, or the ignorance and supineness of the owner." If this were true, and we fear it was and is, also, even now far too true, we see that lying at the bottom, being the very root of the evil, is a want of education on the part of many of the proprietors of these animals, and that, had it been otherwise, they would have been led to appreciate the resources and advantages of science. See, then, the sad consequences which must ensue, when, added to the ignorance of the owner, we had the total neglect of this important branch in the education of the veterinary surgeon. These things, however, are fortunately passing away ; and now that their opposites are being brought into activity, each succeeding year brightening prospects will be opening to our view. Thus we may say that, by the force of circumstances, the improvement in the breed and individual value of cattle—their increased numbers—dissipation of the clouds of ignorance—special attention to this section of veterinary medicine, and also that national peculiarity of saving expense by adopting the best and shortest plan to effect an object, *are all combined* in effecting the happy change we have so long desired.

It will not be out of place here to speak of the part the Royal Agricultural Society has taken in furthering this grand object. Faithfully and advantageously, from its first foundation, has it supported its motto, " Practice and Science." Incorporated by royal charter soon after its origin, we find it fully alive to the benefits that would accrue from a diminution of disease and death among domesticated animals ; and therefore, among other noble objects, its charter sets forth, that the Society shall " take measures for improving the veterinary art, as applied to cattle, sheep, and pigs." This condition soon led to its connecting itself with this institution, and voting annually a large sum of money in support of the lectureship which was then established within these walls. With a slight interruption, the causes of which it is unnecessary to enter upon here,

these supplies have been regularly kept up, and we have the satisfaction and pride of stating, that we now enjoy the full confidence of this National Society. Besides its liberal donations to the College, it annually offers prizes of £30, £40, and £50 for the best essays on the general management of animals, prevention and treatment of their diseases. These papers, which are published in the journal of the society, undoubtedly tend to the production of much good; besides showing to the great mass of farmers that an equal amount of scientific knowledge is needed by the medical attendant of his cattle and sheep, as of his more valuable animal—the horse; convincing him thereby that in this particular also “a little knowledge is a dangerous thing.” Added to these things, we have the delivery of lectures before its members at the annual meetings; the appointment of a veterinary inspector to watch the outbreak of sudden and destructive diseases; and to examine the animals as to their freedom from hereditary defects, that are selected at the shows as fitting recipients of the prizes. All this has not been done, and all this machinery brought into operation, it may truly be observed, but from the pressing necessity of the thing.

It is among cattle and sheep, from the earliest to the present time, that destructive epizootics have prevailed. The “murrain” of old, a term, perhaps, which expresses a class rather than any particular disease, destroyed its thousands and tens of thousands; and pleuro-pneumonia of the present day would be equally destructive, but for well-directed efforts to limit its extension. Mysterious as undoubtedly is the origin of all these maladies, the influences of secondary causes in propagating them are no less extraordinary. Some of these causes are well understood, but others offer new fields of investigation, and it is to these that science must direct her searching eye. Everything around, above, and beneath us, tells of being governed by the law of order. Caprice and confusion, in truth, do not exist; nor does chance play any part in what we daily observe passing about us. “Chance,” says the learned and eloquent Dr. Cumming, “is the atheist’s creed, condensed into a monosyllable.” Law and order, then, belong to these epizootic diseases, without reference to the kind of victim they select, or to what extent they may prevail; and therefore, just in proportion as we are made acquainted with these laws, so shall we be enabled, if not to control, yet to oppose their effects.

For this especial purpose an important society has recently been formed in this metropolis, whose ramifications already extend to India, and most parts of the civilised globe. Founded

and conducted, as the Epidemiological Society is, by most distinguished and talented physicians and surgeons, we find it determined to do its best to make clear the causes of the extension of this class of diseases among animals as well as man. With this view, it has very lately appointed an Epizootic Committee, which is now in full operation. I hold in my hand a list of the queries, and an important one it is, which the Committee intends to circulate far and wide in this country, on the subject of pleuro-pneumonia. As these questions are to undergo some revision before being published, it would not be right that I should read them; but, when brought before you, I doubt not you will agree in the observation of their value. Here we have another assurance, that medical men are willing to assist the onward progress of Veterinary Medicine; thus admitting the principle, that they and we are fellow-workers in the same field of science. This is the legitimate union that should exist between us, and one I desire to see drawn tighter every day, by the bonds of association and friendship. On this subject, time will not permit me to dilate; and I proceed, therefore, to make another remark or two respecting these epizootics.

It is certainly not a little remarkable, that, within the last thirteen or fourteen years, we should have witnessed the outbreak of *three* of these maladies, each perfectly distinct from the other; while, from the records preserved to us, it would appear that no disease of a similar kind had visited this island for nearly a century before. Had such been the case, doubtless, it would have been well known, because the progress of these affections during that period has been regularly traced in Europe.

The epizootic from which the cattle of Italy, Germany, France, Holland, and Great Britain suffered in 1711-12, came originally from Hungary, being imported, it is said, by some oxen into the neighbourhood of Padua, a town in the Lombardo-Venetian kingdom. The historians inform us, that if "the saliva is dropped on the grass, and sound animals placed in the same pasture, they immediately contract the disorder;" from which observation it would appear that the malady was closely allied to, if not identical with, the one we designate Eczema Epizootica.

The British islands were again visited by another of these affections, in 1745, and, on this occasion, it is said to have had its origin "either from some calves imported from Holland, or from an English tanner, who bought a parcel of distempered hides in Zealand, which were forbidden to be sold." The losses which followed were immense, tens of thousands of our cattle falling a sacrifice in the course of a year or two.

In 1757-8 another of these epizootic diseases reached our shores, and many of our cattle died. Dr. Layard described it as putrid, malignant, and inflammatory fever, attacking the Ox tribe alone, and producing ulcers in the mucous membranes, and external parts of the body. After this, we have no account of any similar outbreak, until the year 1839, when *Eczema* made its appearance. This was quickly followed by *Pleuro-pneumonia*, and this again by the *Small-pox of Sheep*.

The two former undoubtedly belong to the epidemic class, for, like cholera, their appearance here cannot be traced to any known cause: but the latter clearly arose from the importation of some infected sheep. Some of these maladies are both contagious and infectious, in the ordinary acceptance of these terms, while it is a matter of great doubt whether others possess either of these properties. Many of the contagious class can be communicated from animal to animal by inoculation, and even safely so, the inoculated proving, as a rule, a milder disease than the natural. This fact was long since established in medicine; and we find that Dr. Layard was a strong advocate for the inoculation of cattle, in 1757, as a preventive of the malignant and ulcerative disease which then prevailed; it being a singular feature in many of these contagious diseases, that they rarely attack the same animal a second time. At this moment the inoculation of cattle, to prevent pleuro-pneumonia, is exciting the liveliest attention of many of the governments of Europe. Already France, Holland, Belgium, and Prussia, have appointed commissions of scientific men to inquire into the success and value of the practice.

The plan seems to have originated with Dr. Willems, of Hasselt, the chief town of the province of Limbourg, in Belgium. The commissions, above referred to, have each visited Hasselt and other places where inoculation has been adopted, to institute inquiries on the spot, and report to their respective governments. Nor has England remained a quiet looker-on, as I have had the honour of representing the Royal Agricultural Society in an investigation of the subject, and, in my official capacity, have visited Belgium and Germany. Having to report to the Society the information I have collected, and also my opinion of the value of the operation, I shall be excused by you, at this time, of going into full details either of the measure, or my impressions respecting it. It is right, however, that I should make a few remarks on the subject.

The inoculations are made in the belief that pleuro-pneumonia is highly contagious, and spreads itself from this cause, as well as from the special causes of the extension of an epi-

zootic; and that the operation engenders a peculiar state of system, which, without imparting the disease *itself* to the animal, gives immunity against the several causes which produce it. Twelve hundred cows and oxen have been inoculated in Hasselt alone, with, it is said, but ten deaths, and Dr. Willems asserts that not one has contracted pleuro-pneumonia, although many of them have since been exposed to its contagious influence. This number gives but a faint idea of the extent of the practice, as more animals are daily being inoculated; and a Dr. De Saive, I learn, has operated upon no less than 1500 in the provinces of Rhenish Prussia. The government of Belgium is carrying out a series of well-considered experiments, under the superintendence and direction of scientific and *impartial* men, which doubtless will ere long show if *any*, or what amount of value belongs to the process. At the Veterinary School of Brussels there are, at this time, sixteen cows, the subjects of the experiment of inoculation, which are to be submitted in various ways, and in various places, to the uncontrolled influence of the disease. Some time ago the government sent two *diseased* cows to Hasselt to be placed with six inoculated animals, the property of M. Willems, sen. Eight days afterwards these two cows died, but the inoculated animals have remained unaffected. Two other *inoculated* cows were sent to a farm, and put with thirteen diseased,—they escaped entirely; while of the thirteen, nine died and four were recovered by remedial measures.

In Hasselt, from 1400 to 1500 cows and oxen are kept during the summer months, and upwards of 2000 in the winter. It is a town full of distilleries, and these animals are fed upon refuse grains, &c., and when fat, sent to the cattle markets. From the situation, want of drainage, and accumulation of the filth of the town itself, added to the system of feeding the cattle, the kinds of food, neglect of ventilation of the sheds, and removal of the dung, &c., Hasselt may be considered as the very centre and focus of a disease like pleuro-pneumonia. It is said never to have been free from the malady since 1836, and hundreds of animals have died within it during the last sixteen years; but, by inoculation, the promulgators of the system declare it is now rendered nearly exempt. Whilst these sanguine views are entertained by the advocates of the operation, I have become acquainted with facts that greatly militate against their conclusions; and, therefore, that the foregoing statements may not give encouragement to inoculation being tried in this country, before circumstances are matured, facts arrived at, and truth established, I would simply add, hesitate and be cautious—“think *twice* ere you act *once*.”

As an amusing sequel to the subject I may state, that in Hasselt, as in most towns in Roman Catholic countries, the churches are crowded with the images of saints, and other equally as great absurdities, as “winking virgins and bleeding pictures,” that are employed in the delusions practised by the priests on the people. We can understand that cardinals and priests, monks and nuns, must eat and drink, and possess the “wherewithal” to purchase food and raiment as well as others, and that hence their brains are racked to devise new schemes to obtain the necessary means. Among others, they have created a *patron saint of the cows*, St. Brigita, and taking advantage of Hasselt being a town where large quantities of cattle are always located, they have placed her image in one of the churches. Many persons are taught to believe that all the diseases of their cattle are sent by the saint as a judgment for their sins. When, therefore, cows fall ill, the owners repair to the chapel of the saint, and pray her removal of the curse; votive offerings are also presented, and milk and cream, and butter and cheese, are sent in abundance for her use, or rather the use of the priests, who take care, no doubt, to remove them from the depository before time has impaired their good qualities. The common people believe that pleuro-pneumonia is an *especial* judgment of St. Brigita, and offer many prayers and vows at her shrine for its removal. All cannot, however, afford large quantities of cream and butter, and hence their votive offerings assume another form. Models of strange-looking cows in wax and tallow are presented; but as these are of little use to the priests, they are allowed to remain to adorn the image of the saint, around whose neck and arms they are suspended by paltry pieces of blue and white, and various coloured tape or ribbon.

So much for St. Brigita, and the part she is said to take in these epizootic diseases. Without her aid, for Romish saints so abhor Protestant Britain, that they will not deign even to send us their curses, we, as before observed, have experienced very sad losses in this country from these maladies. It was from the number and virulence of the diseases affecting cattle and sheep in particular, together with the general ignorance prevailing on the subject, that measures were adopted in this kingdom about sixty-seven years since, which ultimately ended in the establishment of a school of veterinary medicine.

To the Agricultural Society of Odiham, in Hampshire, belongs the merit of taking the initiative in this important matter; and hence it is that agriculture claims, and rightly so, the honour of being the parent of this Institution. “In August, 1785, the members of the Odiham Society resolved, that it should be a consideration for their meeting in

October, what were the most likely means to encourage the study of scientific farriery." (I am quoting in full from a published history of the Veterinary College, dated 1793.) Nothing of importance, however, appears to have been done by the society, until May, 1788, when they resolved to advertise their intention of educating two or more young men in the school of farriery in the neighbourhood of Paris; and to solicit subscriptions for that purpose, which was not done till after a similar resolution in March or June, 1789. In August, 1789, they resolved that 500 copies of their resolutions should be printed, with an address, in which they say, "It is to be lamented that there is not yet in England any establishment adequate to the desired improvement in farriery, by a regular education in that science *on medical and anatomical principles*." And they again express their intention of sending two or more youths to France for instruction.

Early in this same year M. Saint Bel came to England, and published proposals for reading lectures on the general knowledge of the horse; and in the following year, 1790, he presented to the public a plan entitled, "A plan for establishing an institution to cultivate and teach veterinary medicine." At the end of May, or beginning of June, in the same year, several of these plans were transmitted to the Odiham, and other societies; and in August following, the Odiham Society resolved, that a committee should be appointed to meet in London for the purpose, among other business, of collecting whatever might appear to be conducive to the views of the society for promoting the improvement of farriery, and they elected M. Saint Bel an honorary and corresponding member, and one of the committee in London.

On the 11th of February, 1791, at a meeting of the committee, the following important resolution was passed, which immediately led to the establishment of the college:—"Resolved: that this meeting is seriously convinced of the benefits which must result from an institution to cultivate and teach veterinary medicine; and they have observed the effect produced upon the public by the proposed measure of the society for the improvement of farriery, as also the plan offered by M. Saint Bel. That the ultimate view of the society tends to the same object as the plan proposed to be immediately carried into effect by M. Saint Bel; and that it is the opinion of the meeting, that it is greatly to be desired the plan of the Odiham Society and that of M. Saint Bel should be consolidated." Other resolutions having the same view were passed; and a week afterwards, namely, on the 18th of February, it was resolved, "That from this day forward this meeting shall be called the Veterinary College of London."

(By the bye, would this not be the most fitting day for the annual convivial meeting of the members of the profession and their friends?) I have been desirous of giving these particulars from documentary evidence, because it has been too much the case for some to conceal, and others to speak disparagingly of, the part taken by the Odiham Society. The original curriculum of study set forth, that *the anatomy and diseases of all animals were to be investigated; that botany was to be taught, and a special course of lectures given on the nature of epizootic affections*. The early death of M. Saint Bel, and the appointment of Messrs. Coleman and Moorcroft, as joint professors, soon led, however, to a departure from the intention of the original founders.

It is not a little remarkable that Professor Coleman, a distinguished member of the medical profession, who a few months after his appointment was left in undisputed possession of the professor's chair, should have devoted his great talents and philosophic mind to the anatomy, physiology, and pathology of one animal alone. For more than fifty years the horse, the horse! was the cry within these walls; and for the same space of time the blacksmith's hammer rung continually in our ears. "No foot, no horse," became the text of nearly every lecture, and it was attempted, day by day, to prove that Vulcan's art, with *spring shoes, jointed shoes, frog bar shoes, and tips*, would restore to health permanently diseased structures, and remove hereditary susceptibility to disease. These were fatal mistakes; they tended to lessen the science in the estimation of a thinking public, and led to every country smith styling himself a veterinary surgeon. No wonder that many, even of the leading members of our profession, being reared in a school like this, should now be found the strong advocates of practical shoeing (by which, I suppose, they mean forging and fitting of shoes, nailing them on, and pointing the nails,) forming a part of the pupil's education while at college.

I will give place to none on the importance of general practical knowledge being acquired within these walls by the pupils; but I am fully persuaded that the continued forcing on the public that veterinary surgeons are shoers of horses on "scientific principles," as the phrase is, is the great bane of our art. It has had the same effect on Veterinary Medicine, that an adherence to the operations of the barber would have had on the medical profession, had its members continued to have trammelled themselves therewith. We look forward, however, to a more pleasing future, being firmly convinced that just in proportion as we throw off this incubus, and

labour here in the *true* field of science, so will our profession rise in public estimation.

In taking a second view of the origin of Veterinary Medicine in this country, shall we not see even greater reasons to wonder why all animals, save the horse, were neglected? Who were the founders of the science? The noblemen and gentlemen of the turf? The aristocratic country squire, who prides himself on his own and his horse's prowess in following the hounds, it may be, in pursuit of a poor timid hare? The man of ease and wealth, who rolls lazily along in his carriage? The members of that craft who style themselves dealers in the best, the soundest, and most valuable animals in the world? Were any of these the establishers of a Veterinary College? Singly or combined did they take the step? No! The knowledge of grooms, coachmen, and blacksmiths was sufficient for them. It was the often contemned farmer, the owner of cattle, sheep, and pigs, who *first* thought of this noble object, and resolved on its accomplishment, and who stood unaided and unassisted by any of these horsemen, from "August, 1785" to "Feb. 1791."

I have shown how this Institution, deviated from the course laid down by its agricultural founders; and is it not somewhat remarkable, that after wandering from its path of duty so many years, it was brought back by another agricultural society? "The Royal Agricultural Society of England," with which, we trust we may say, it is now indissolubly united. Let me here observe, that it is this fact, taken in connection with another contemplated union, hereafter to be suggested, which will, I believe, effect for our profession all that its most sanguine friends could desire, or ever hope to see accomplished.

Having treated of the past state of our science, I pass to a no less important subject, namely, the future course which we should pursue. In the present day, the inquiry is not what *has been*, or *is done*, but what is *about to be done* to add to the usefulness of any art or science, to raise it in the scale of order, or even to maintain it in its present position? what reforms are needed? and what are safe and practical? are questions at all times most difficult to solve. It is without doubt dangerous ground to tread upon, and requires both caution and circumspection in the proceeding; but boldness, perseverance, and courage are no less required. Singleness of mind and honesty of purpose have alone induced me to put these questions, and the same principles shall furnish the answers.

Reforms of our Art appear to me to naturally arrange themselves into three sections, those relating to the *Pro-*

fession, the *Institution*, and the *Pupil*. Under the first head I would place the necessity which exists, in these times, for the members of the profession to gradually withdraw themselves from all connection with the trade of the shoeing-smith, in so far as the shoeing of horses for the public on the same plan or system of business as the ordinary artizan. Veterinary surgeons being acquainted with the principles of shoeing, and possessing a forge for infirmity purposes, is quite another thing, and perhaps as necessary as that they should be provided with a stable in which to place a sick animal, or a pharmacy for the dispensing of medicines. There are, I am well aware, some notable exceptions to a veterinary surgeon being lessened in his standing in society by this connection; but, speaking generally, our profession has suffered greatly from this cause, and will do more from the mighty engines that are at work in educating and elevating all classes of society. Talk to most men, and they will tell you that the forge brings no profit of itself, but that it helps to keep together their circle of clients; and yet we find many of those who enjoy the largest practices to be without the forge. In country towns, where the extent of the veterinary surgeon's returns will not permit an establishment of this kind for infirmity purposes alone, an arrangement, advantageous to both parties, can always be made with the resident smith.

The next point I would refer to, is the avoidance of horse-dealing. Buying and selling of horses far too frequently lead to associations which should be avoided at all hazards. To say the least, it draws a veterinary surgeon away from his home, leads to a neglect of his practice, the offending of his clients, and his ultimate total disregard of the science he professes. To sell a horse, he has almost invariably to sacrifice his professional knowledge to the love of gain, as he must either conceal defects which he knows to exist, or speak of them as things of no consequence;—thus the veterinary surgeon adopts a course the very opposite to the one he employs to maintain his reputation as a man of science. We see from this that horse-dealing and the practice of Veterinary Medicine are the greatest incompatibles that can be found in almost any calling. Keep repositories, institute periodic sales, become horse-dealers entirely if you will, or eschew these things, and be veterinary surgeons; you cannot be both.

In large towns, or in the best agricultural districts, it will rarely happen that a veterinary surgeon, whose conduct puts a high value on his name, will need any additional source of income to that of the practice of his profession. In other localities, it may be that this is required; if so,

there are legitimate unions. The trade of the chemist and druggist may be joined; or, what is better, the practice of agriculture, depressed though it may be at this time. All must admit that the breeding and rearing of animals, and investigating and treating their diseases, are twin brothers, and should therefore dwell together.

Another reform needed, is the abolition of quaint terms of expression when speaking of particular diseases to the owner of the animals or to his friends. These smack of their stable origin, and will assuredly lead those with whom the veterinary surgeon desires to stand well, to believe him to be the companion of the yardman, the groom, or the coachman. Bearing on this point, I would likewise remark, that a necessity exists for such terms as side-bones, thorough-pin, bog-spavin, fardel-bound, and fifty others of the same class, to be expunged from all papers and essays that are to meet the public eye. What opinion must a medical man have of your science, if he hears or reads of diarrhœa being called green-skit, or white-skit, depending on the colour of the alvine evacuations; strangulation of intestines, gut-tie; an enlarged mucous capsule, a wind-gall; or an exostosis, a splent. Abolish forthwith these worse than unmeaning terms.

Another circumstance in which I believe a reform is needed, is the conduct of one veterinary surgeon towards another, when both are situated either in the same town or neighbourhood. An unkind feeling lurks in the breast, and it far too frequently happens that this leads, although perchance they may have begun college friendships together, to disingenuous solicitations to obtain practice, and unworthy attempts to lessen each other in public estimation. A fair and honest rivalry is not to be complained of, nor is it in any way objectionable. All should strive to live on their *own* merits and deserts, not on the merits of others. If this were the case in our profession, we should witness the pleasing feature of one member being on the most friendly terms with another in the same town, giving him the benefit of his opinion in doubtful cases, and even superintending his practice when indisposition, or other causes, produced his temporary absence. The good that would spring from this association cannot be duly estimated; and like all good actions, it would assuredly tend to the happiest results.

Having made, and I trust in the right spirit, these observations on some of the reforms in the profession which immediately presented themselves to my notice, I shall proceed to a consideration of those named under the second and third heads: the Institution and the Pupils. I will at once plunge into *media res*; for candour compels me to record

my regret that some additional means are not adopted here and elsewhere to make students more practical, and more fitted for the every day duties of their profession. Believing that a good deal can, and therefore ought to be done, to remove this blot, what think you must have been my feelings when I read in a published lecture, delivered last year by a member of the profession, the following passages?—"Although, as a general rule, the pupils are expected to take their turn in attending the patients in the Infirmary, this duty is performed or neglected according to the inclination or caprice of the pupil, *as no one in authority takes sufficient cognizance of the matter.* Hence it is but too often found that many obtain their diplomas who were merely ready in their answers, and who had a general knowledge of the *theory* of the Art, while they can hardly bleed a horse without bungling the operation, or compound and make up and administer a ball. Such occurrences are not uncommon, and they bring the Art and its professors into disrepute." Would, gentlemen, that I could congratulate you upon the immediate application of an efficient remedy to eradicate this evil; but that it is our united opinion that something should be done, will be apparent when I recall to your mind an observation made by Mr. Spooner in his introductory address: "Whatever remains to be done, (says my colleague,) will not be neglected by us, so soon as the road is clear to accomplish it. We stand against no sound reforms; and there is not an institution in the world that will ever cease to want them."

I will now ask, what are the most certain means of giving this practical information?

1st. Let the Governors announce their intention of allowing horses, the property of the poorer classes, cab, or omnibus proprietors, to be brought to the College free of expense, and at fixed times, for the advice and treatment of the professors; and let all the necessary dressings, administration of medicine, and performance of operations, be done by the pupils under the superintendence of their teachers.

2dly. Let cattle of all kinds be brought in the same manner and under the same regulations, *but without reference to the position in society of their respective owners.*

3dly. Let a selection be made from among the Class, of persons to act as clinical clerks, who shall pay a small additional fee for the privilege, and be presented at the termination of their studies with a certificate setting forth the position, &c., they have held. These clinical clerks should have dressers under them, and they should keep a

registry of the disease, treatment, and result of every case that is admitted into the Infirmary.

4thly. Let models of the mare and cow be obtained for the demonstration of the "capital" operations, but especially for the illustration of practical parturition.

I may here remark that in a late visit of myself and Mr. Morton to the school at Brussels, we witnessed with much interest the examination which the pupils were undergoing for certificates of merit on this important subject, by the application of models such as here referred to.

These suggestions must speak for themselves, as present circumstances will not permit any comment upon them. I therefore pass to other needful reforms.

5thly. Let a difference in the length of study be made between the pupil who has had the advantage of being placed with a Veterinary Surgeon and one who has not.

This difference must be on the side of extension; for certainly no pupil should be allowed his examination before the expiration of the second course of lectures. A sixth suggestion is, that all applicants for admission as pupils shall undergo a preliminary examination, with a view to ascertain the extent of their general education. It would scarcely be believed that veterinary surgeons are fostered on the country who cannot write an ordinary note of business, or spell the most common words correctly. The effect that this has had, and must have, on the standing of the now *legalized* profession, is so self-evident, that here also comment is unnecessary. A seventh suggestion I make is, that no pupil shall be entitled to appear before his examiners, unless it can be shown that he has dissected a given number of *other animals*, besides the horse, to the satisfaction of his teachers, and has thus made himself *practically* acquainted with their anatomy.

Added to these things, there are some others to which time will only allow me incidentally to allude, such as the Library of the association being made the property of the College, and opened under proper regulations to all the pupils, whether members of the association or not. The preparation of a Catalogue, descriptive of the morbid and other specimens of Anatomy contained in the museum for general reference, and for the illustration of the pathological lectures in particular. And, lastly, the publication and adoption of a perfectly new nomenclature of disease, founded upon science, as we find it in this advanced period of the nineteenth century.

I have thus ventured to put before you, and for your consideration and amendment, an outline of a system of progressive reform. It will be seen that it is but the mere

framework of a more perfect plan ; many other things are needed to give it stability and solidity, as well as form ; these, however, I leave for future experience and other workmen. I have freely, perhaps too freely, given expression to my sentiments ; and if, in my zeal to advance my profession, my judgment has yielded, you must remember that in the government of all things the law of nature is, that the weaker should give place to the stronger. Advancement must be made ; and fully do I agree with Dr. Arnold, when he says, "there is nothing so revolutionary, because there is nothing so unnatural and so convulsive to society, as to strain to keep things fixed, when all the world is, by the law of its creation, in eternal progress. And the cause of nearly all the evils in the world may be traced to that natural, but most deadly, error of human indolence and corruption, that our business is *to prevent*, and *not improve*. It is the ruin of all alike, *individuals, schools, and nations*."

There yet remains one other point connected with this subject, which it is absolutely necessary to say a word upon. In the foregoing observations reference has been made to an extension of the practical as well as the scientific education of the pupil. This necessarily would require additional lectures to be given, and it might therefore be supposed that I desire to see more done *daily* by way of oral instruction than is done at present. I desire no such thing ; nay, I am fully convinced that, instead of an acknowledged good being produced by an extended system of instruction, any attempt of this kind would be a positive evil.

Already we have lectures enough delivered here, and, perhaps, more than enough on certain days ; nor should the length of the present session be increased, rather indeed do I desire to see it shortened. The experience of every medical school in this metropolis proves that, if more than three lectures are crowded into one day, the pupils either depend entirely on their teachers for the attainment of knowledge, doing no work themselves in the vineyard, or that they quickly become satiated, and turn from their studies with disgust. These become the hangers on of the school, the occasional attendants of the lectures, the careless and indifferent hearers, and with the dissipated and altogether negligent are the bane of every educational institution. Pupils to succeed, must in every way be *students* also, not the drones of the hive, but fellow-workers in laying in the store of honey for future sustenance and support. Look to the army, the navy, the law, and all other professions, and it will be found that the drudgery, as we may call it, of each must be gone through, to obtain

a knowledge of the profession, and to succeed in its practice. If, then, it is not judicious to give more lectures daily, or to extend without interruption the time of their delivery, what, it may be asked, should be done? Why, divide the session into two parts, and give a short Summer upon the long Winter course. Open the school on the 1st of October, and close it in March; begin again on the 1st of May, and finish with the end of June;—follow, in fact, the example of the best medical schools in this respect. Each lecturer would thus be enabled better to divide and classify his subjects, and with, it must be admitted, advantage both to himself and the pupils. The “cramming system” would be avoided, and time would be given to digest the material that had been taken in.

I speak with much deference here to my colleagues; but ample work would be found, and yet no addition be needed to the number of the professors, if Practical Chemistry and Botany, Veterinary Jurisprudence and the Principles of Surgery, Microscopic and Comparative Anatomy, formed the subjects of the Summer course. This, however, like many other suggestions in this address, is put forward more for future thought than immediate action. Changes such as these, beneficial though they be, we, the teachers, cannot of our own will or power carry into effect. It belongs to the Governors to do these things, and respectfully would I direct their attention to them. May we venture to hope that some change in the right direction will take place, now that the necessity has been pointed out. If so, our end is answered.

And now, gentlemen, I have a word or two for the members of the Council of the Royal College of Veterinary Surgeons, several of whom I have the honour to see around me,—a hint for their future consideration, and likewise that of my colleagues.

Like many other things herein advanced, it will doubtless, at first, appear very visionary to some, nevertheless, even to those I would say give it thought, discard it not forthwith because of its seeming improbability.

It is essential for my purpose, that I begin by directing your notice to the circumstance that, a few years since, her Majesty was pleased to grant us a Royal Charter of Incorporation, by which we became a legalized profession, with a power of self-government, and other privileges eminently calculated, if used aright, to effect much ultimate good. A hasty examination of this document, unfortunately, induced those who had to do with its first working, to believe that they had gained some important triumph over the schools; and it likewise led the authorities of this Institution to think

that they had lost some invaluable privileges. From *data* thus improperly drawn, differences arose, party spirit crept in, and imaginary grievances were made at length to take the form of substantive difficulties. Hence the sad spectacle was presented to the country of a profession divided into sections, torn and rent asunder by party feeling, each opposing the other, and doing its utmost to prevent a reconciliation. Strange as it may seem, both parties were found to be fighting under a standard which bore the same inscription,—protection to the interests of the veterinary profession, and no surrender;—and stranger still, while thus battling for its welfare, they could not be made to see that they were striving hard to accomplish its ruin.

These things are alluded to only to show, that at length calm deliberation took possession of the minds of some, and seriously they began to inquire what in reality have we gained by the Charter at the expense of others, and what have they lost to produce this commotion? Impartial examination led them to see that the quarrel, like most other quarrels, had its origin in a trifle.

Another course of action was then begun, and soon its beneficial effects were made apparent. In a short time the authorities of this College saw that they had, in fact, lost but *little* of anything, and *nothing* of importance; and the Council of the corporate body also found out that they had gained just what we had lost, and no more. Suffice to say, that a reconciliation and amalgamation were quickly brought about; and now, our interests being admitted to be identical, we are united in the “bond of brotherhood” and friendship, under the same banner we had before been marching to the battlefield. Well, gentlemen, it is just this union that I wish to see turned to a lasting account; rightly considered and acted upon, here is the foundation of all our future success, both as a School of Science and an Incorporated Profession.

To understand something more of this, let us glance for a moment at some of the things besides those before mentioned, which are needed by this Institution, and also those required by the Council of the Royal College of Veterinary Surgeons. You, the Council, want a “local habitation as well as a name,” in which all that concerns your ordinary proceedings, together with the proper examination of the pupils, can be conducted. Well, I will suppose this Institution is removed from St. Pancras, and so centrally placed as to suit the convenience of all parties. Have we not, within these walls, let me ask, all you want, a room for Annual Meetings, as well as those of Council, a fitting place, also, for the examination of the pupils, as well as the means of rendering that examination of a higher

order, and more practical through the museum, the dissecting-room, and the infirmary? Could you not, by the means and appliances at our disposal, carry out all you want now, or are ever likely to require? could you not add to the museum and the library as you felt disposed, or as necessity demanded? I answer, yes.

Having now very briefly shown what things you chiefly need, and the facilities we possess of supplying these, I ask, in the next place, what this College wants, standing here in St. Pancras, to render it permanent, to increase its lists of subscribers, and fill its stables with patients, to make it more popular, both as an Institution and a school of science and practice? Why, it wants a central, or a west-end branch; a reception-room, if I may so speak, for patients *there*, for removal to its hospital *here*. Those sections of the community to whom we chiefly look for support are, from the growth of this mighty Babylon, yearly going further from us, and we must follow them, for they will not return to us. Well, then, let the Governors early secure convenient premises in a fitting site, large enough for all present and all future wants; and let them at once set about making these premises convenient for *your purposes* as well as for *their own*. As a speculation in a money point of view, I would pledge myself to its success on our part. But buildings must ultimately be raised, and you must take your share in this;—remember it is to be a real amalgamation—no half union of the head to the body, or the body to the head,—your yearly income must be invested in Trustees, to be used for the especial purpose of erecting with us a new College. Now, paradoxical as it may appear, in order to augment your funds *ultimately*, I would at once decrease the Examination Fee, and thus remove a great obstacle to the entrance of *all* the students into the profession.

If all this were set about in earnest, and a fair prospect existed of its being accomplished, do you not think that every right-minded man in the profession, whose means allowed, would subscribe annually according to these, to effect so great a good? I am not much given to “castle-building,” as those know who know me best; but “looming in the future,” I see rising before my mind, from a union such as this, a stately edifice, with its capacious reception hall, its secretary’s office, consulting-room, council-chamber, museum, library, lecture-theatre, laboratory, dissecting-room, and infirmary, which is at once the pride of Britain, an ornament to this metropolis, and the assurance of our success. I look again, and see that one thing is not there, what is it? Why, Vulcan’s forge! I hear a voice exclaim, “whose hoary locks

proclaim his length of years," alas! "'tis gone to the tomb of all the CAPULETS." "Shoeing, on scientific principles," has sealed its fate.

But to return to the *modus operandi* of effecting all this; some one must take the initiative, and fortunately we have that one. Professor Sewell is the man! he stands in the position to do it all, to win for himself a new crown of laurels, and to have his name recorded in imperishable marble as the greatest benefactor of his profession—the founder of a new epoch in its history. I therefore venture to call upon him to turn to advantage the justice that has at length been done him, by his election as President of the Royal College of Veterinary Surgeons, and to mark his year of office with *eclat*, by acting as the mediator between the Council and the Governors. Let the first step be a conference between these bodies. It is not to be expected, nor perhaps would it be right, for me to say more on such a subject at this time. The hint is given, let others act.

I pass to other matter, remembering that one of the chief objects of this address is to convey preliminary information to the student. First, a word or two upon the books which you should consult, as needful auxiliaries in your studies. As Anatomy lies at the basis of all physiological and pathological knowledge, it must consequently be your primary object of investigation, and, for this purpose, you will find Percivall's 'Anatomy of the Horse' the best text-book in your dissections. For General Anatomy, I know of no work equal to Quain and Sharpey's; the descriptive portion, treating of the human subject, makes it, of course, somewhat unsuited to your requirements in the dissecting-room: notwithstanding this, it may still be consulted with very great advantage. Todd and Bowman's 'Physiological Anatomy' is a work of the highest order. The same may be said of Carpenter's 'Principles of Physiology, General and Comparative.' This work must ever stand as a monument of untiring industry, deep research, and extraordinary talent. Dr. Carpenter has also given us another very valuable book, his 'Manual of Physiology.' Nor on this subject must I omit to name Kirkes and Paget's 'Hand-book of Physiology;' of its kind, we may say truly, that none better can be found. On the 'Principles of Surgery' we have Liston's, Bransby Cooper's, and Millar's, all of the first class, all expressly fitted for your study here, and for a place in your library hereafter. These remarks are equally applicable to Brande's 'Manual of Chemistry,' Bowman's 'Medical Chemistry,' and Gregory's 'Organic Chemistry.'

To come more immediately to our own profession, I hesitate not to place at the head of the list Morton's 'Manual of Veterinary Pharmacy.' It perhaps does not become me to say anything of the merits of this work; nay, indeed, it speaks for itself. I feel, however, bound to add, that at a time when the Horse alone formed the sole subject of study within these walls, this publication came forth, to the lasting honour of its author, giving the history of medicinal agents, their properties, uses, and doses in the alleviation of the diseases *of all domesticated animals*. To Mr. Morton we are also indebted for an elegant little monograph on Calculous disorders; and a publication which has never been prized at a tythe of its value, a Toxicological Chart. Percivall's 'Elementary Lectures,' although written some years since, will ever be numbered among the greatest of this author's productions; later, he has given us a series of volumes on Hippopathology, which no veterinary surgeon should be without. Time will not permit of my doing more than name a few others which immediately occur to me: Youatt on the 'Horse,' 'Cattle,' and 'Sheep.' Blaine's 'Veterinary Outlines,' and his 'Canine Pathology,' a new edition of which has lately appeared from the pen of Mr. Walton Mayer. Coleman on the 'Foot.' Turner on 'Navicular Disease,' and Spooner on the 'Foot.' This latter gentleman has likewise written a useful little book on the 'Diseases of the Sheep.' Doubtless, there are many others whose works should appear here, but without any invidious selection, my object has been to give such as seemed to me to be among the best for your study.

Next, a word with regard to the Prizes. You are aware that for the last few years a Silver Medal and two or more Certificates of Merit have been given at the close of the Session, by each lecturer, to the pupils who most excelled in their written answers to the questions propounded. I need hardly say that this system of rewards, if so I might call it, was introduced that it might prove a healthy stimulus to your exertions, and, perhaps, on the whole our expectations have not been disappointed. I feel bound, however, to say that the continuance of the plan will rest entirely with yourselves. If there is any lack of a right spirit of competition, or any falling off in the merit of the answers, your teachers will feel themselves obliged, for the credit of the school, to discontinue these prizes. We, however, do not anticipate any such evil, and my only object in making these remarks, is to show you how much you have it in your power to assist us both in maintaining and advancing the best interests of the profession.

Time warns me to conclude, and which I will do forthwith, by remarking that if man's luxuries and pleasures are to be immeasurably augmented by the gold fields of Australia and California; if his wants and his comforts are to be greatly ministered to by the Lobos Islands of Peru, as the store house of a material capable of doubling the amount of food for the world; if all this, and more than this, mark "the signs of the times" in which we live; who can question that increased responsibilities are indissolubly united with increased advantages? How then, it may be asked, should we act, to whom some important trusts are confided?—who are called to lend a helping hand in the advancement of one branch of science, humble though it be. A plain answer must suffice. We ought, at the least, to *endeavour* to make our way plain before us, and boldly and honestly walk therein. All things around us tell of a mighty and a rapid change. Nature seems to be combined with the Arts and Sciences in effecting a perfect revolution in this world's knowledge,—in upheaving society from its long-established basis. Seeing this, may we not say that advancement must be made, for recession cannot be allowed to mark our conduct.

Remember that the Arts and Sciences will never be permitted, because they were never intended, to be the clogs to Nature's wheels. No! they are mighty engines, to be used by man for the benefit of his fellow-man and the glory of his Creator. In all our course of action, then, let us ever bear in mind, that the time perhaps is not far distant when the sound will echo through the vaulted arch of heaven, and be reverberated from pole to pole:—"Behold, I make all things new."

LIABILITIES OF PROPRIETORS OF SHOEING-FORGES.

ON Monday, September 20th, 1852, the coachman of A. P—, Esq., brought a bay gelding to my* shop to be shod. The foreman asked him, at the time, whether he would call for the horse, when shod, or whether it should be sent home. The coachman at first said, that he would fetch the horse; then hesitated; and, lastly, said the horse might be sent home.

The horse was accordingly sent home in charge of a lad, seventeen years of age, who had been from his birth brought

* The proprietor is a M.R.C.V.S., of known respectability.—ED. VET.

up in the stable, being the son of a coachman, and in the habit of riding from the time he was old enough to get on a horse. This lad states, that just after turning from the — into the — road, the horse shied at a bricklayer's truck standing by the near side of the road, and that immediately afterwards a carman, who was proceeding with a van, on the off side of the road, cracked his whip, at which the horse, taking fright, ran away at full speed down the — road, and turned off at a right angle at — gate, the turning leading to his stable. In making this turn, the horse came down upon his near knee, cutting through the skin, and inflicting, besides, a small wound; and as, at the same time, he came down upon the near hind fetlock-joint, that likewise received a skin wound, a little larger than a shilling. The lad, from first to last, never lost his seat.

A. P—, Esq., immediately afterwards, applied to me to make good the damage, stating that he had given eighty guineas for the horse within the last year, and that now he considered the horse worthless,—he being in the habit of using the animal as a saddle-horse, as well as in harness, could not now think of crossing his back after he had run away, however slight the blemishes might prove. I replied, that I was not aware what the law of the case might be, but would seek legal advice. The letters I received from my solicitors I enclose. The result was, that, as my legal advisers considered it “a ticklish case,” I empowered them to meet A. P—, Esq., and settle the matter in the best way they could; which they subsequently did, by agreeing, on my part, that I should pay A. P—, Esq., thirty pounds.

A. P—, Esq., considers that the lad taking home the horse did not act with proper caution, inasmuch as he rode the horse with a cloth only on his back, without a saddle; by which, he considers, he had less command over the animal. In reply to this, I pointed out that the great majority of horses in London are used in harness, their owners seldom possessing a saddle; and that, if I were to keep saddles, I must be possessed of many, since the same saddle would not fit every horse. Also that, in the case of *fetching* a horse from home, the lad would never know what saddle to take, considerations that would render my keeping saddles both unreasonable and impracticable.

A. P—, Esq., stated that his solicitor, and also a *barrister*, had informed him that the law was,—*That, if the lad had been LEADING the horse, the farrier would not be liable for any damage; but, on the other hand, as the lad was RIDING the horse, the farrier was liable for all the damage.*—To these opinions, how-

ever my solicitors attached no weight. It is most important to the profession that a point like this should be settled.

I should state, in addition, that I offered A. P—, Esq., to pay the damage, to be estimated by Professor Sewell, or by any other veterinary surgeon of undeniable character and skill. This offer, however, was declined; Mr. P— demanding *forty pounds*.

The coachman, in the first instance, admitted, on being questioned, that the horse shied at “the — omnibuses,” which are constantly passing and repassing the road the horse must unavoidably take in his way home, a circumstance of which my men were not forewarned, although this was the *first* time the horse had ever entered my shop.

ENLARGED (THYMUS) GLANDS IN A QUEY.

By WILLIAM LYON, M.R.C.V.S., Forfar.

To the Editor of ‘The Veterinarian.’

SIR,—I beg to forward for your inspection a tumour, being the largest of two which were removed on the 15th inst., from under the cervical vertebræ of a yearling quey, and which, although now considerably shrunk and dry, weighs forty-nine ounces, and measures twenty-three inches in its greater circumference. It rested upon the œsophagus, trachea, blood-vessels, and sternal muscles, excepting when the animal's head was depressed; so much so, that had the same degree of pressure been made on the gullet by a tumour existing elsewhere, as within the chest, permanent hove, &c., would have been produced.

The operation consisted in an incision through the integuments of the off-side of the neck, over and parallel to the course of the vessels, which exposed part of the levator humeri; the next incision being made right through that muscle, in the direction of its fibres, which brought to view part of the great tumour, exposing also the sub-scapulo-hyoid muscle, which was considerably but favorably displaced by the pressure of the lesser tumour, which inclined to the off-side: the remaining incisions were made with care through numerous ligamentous-like bands and cellular membrane by which the tumour was attached to the intervertebral and other muscles. The lesser tumour, which was

more superficial, was then removed in the same manner, after having been very useful in keeping the said sub-scapulo-hyoid muscle out of the way. Both tumours seemed to be indifferently supplied with blood. Excepting the cutaneous veins, which yielded less than an ounce of blood, there were no blood-vessels divided, hence no artery nor vein required to be taken up. A few interrupted stitches were put in, and as the quey had necessarily to stand during the operation, there being only one man and a boy present at its commencement, orders were given to let go the under jaw, when the animal immediately sprang over a four-foot wall. I have not seen her since, but have learned that she is doing well.

She is the property of Mr. George Reay, cattle-dealer, here, being one of the stock-cattle on his farm of Caim, parish of Tarmadice. I need make no remark on the origin, progress, structure, locality, and treatment of such tumours, such being already well known to veterinary practitioners. Farmers, however, would do well (now that the disease is very common) to feed off cattle so affected or predisposed when it is possible to do so, and not to breed from such stock, as it is generally difficult and sometimes impossible to remove the tumours when once formed. It would also be for their interest to pay less attention to the direct treatment, by intrusting that into the hands of a practitioner, and to attend more to the negative treatment, such as avoiding blood-letting, avoiding refrigerants, such as nitrate of potash and all other medicines that tend to diminish the fibrine of the blood, particularly all mercurial preparations, and in general to avoid every thing formerly used in the treatment of scrofula in the human subject. But this they will not always attend to when anything is wrong with any of their cattle, they must not merely get direct treatment, but without due discrimination they must *share and share alike*.

I am, sir, &c.

. [The tumour, which is of the shape of a large kidney, is enveloped within a tough membranous capsule and consists of yellow tuberculous masses of substance, varying in magnitude from the size of an acorn to that of a large hen's egg; one body of tubercle in the heart of the tumour being larger than that. All of these bodies were more or less in a condition of suppuration, or rather of *tubercular softening* or degeneracy, the matter they contain and are degenerating into being, in part, a faint, yellow, curdly substance of the

consistence of soft cheese, and in part an orange yellow fluid, of which last the quantity was about half a pint, and which, on standing, deposited a copious (much lighter yellow) sediment. In three or four places, where the softening process had destroyed the tubercular body, crypts or cavities only remained, filled with this fluid alone. From wherever these changes had taken place, organisation had altogether disappeared; nor did it exist but in very low degree in parts which had not yet become converted. The tumour appeared to us to be a diseased and enlarged thymus gland.

ED. VET.]

CONTRIBUTIONS TO VETERINARY MEDICINE.

By WM. GAVIN, M.R.C.V.S., Malton, York.

Necrosis.

A case of necrosis in the frontal bones came under my care four or five years ago, resulting from the patient, who was blind, falling into a lime pit. Death of small portions of bone, involving half its thickness, and extending across both frontal sinuses, occurred, causing great and continued nasal discharge, and loosening the bony attachment of the face to the head, so much as to produce motion of the former upon the latter. Any attempt at mastication was, of course, accompanied with great pain, rapid emaciation following. The patient recovered; but it proved a very tedious case.

Synovitis, with Open Joint.

From a good many cases of the above, which I have treated, I am inclined to think that, generally, the open joint receives undue anxiety and attention from the veterinary surgeon; while the synovitis (the real evil) is thus thrown into the back-ground.

The principal effort of treatment, in all the treatises I have read, is directed to *closure of the wound*, mechanical or natural; which, at first, I have found rather injurious than otherwise. I tried the experiment on a case I had last December, where the wound was on the outside of the back, by putting a compress on the opening; and, instead of removing it

daily, allowed it to remain forty-eight hours. The result was, I had two openings to deal with instead of one; not an improvement of the case, certainly, unless the primary wound is dependent, and drains the joint. In the event of another opening being produced by the distension, it is generally on the inside of the hock, between the tibia and calcis. This wound does not drain the joint, but allows of the more easy closure of the first; though, where it is desired, I should now prefer making it with the knife to the natural mode. Neither the hock, knee, nor stifle joints are often opened without bruise; and the contusion, I am inclined to think, plays a more considerable part in the lighting up of synovitis than the escape of the synovia. Some earnestly recommend enveloping the joint in flour, and things of that nature, and leaving it so. In addition to the reluctance naturally felt at not seeing the wound for so long a time, the discharge is *not* completely arrested, but only partially, which object we can fulfil in another way, and it invariably in time becomes puriform, and irritates the external surface of the joint, the very thing we wish to avoid. I have known corrosive sublimate applied in powder, with the object of causing coagulation of the synovia; but it is much more likely to do harm by increasing both the wound and present irritation. Rest I have found very difficult to obtain; and any increased uneasiness in the limb, is a sure sign of mischief beginning or going on. I use two cords, one attached through a pulley before, and the other in the same way from behind, to the pastern (in the case of the hock joint) with weights at the other end. They will give way to a violent movement, but resist a slight one. At a later date, pasteboard splints, flour bandages, &c., are more useful. In the earlier stages I have found great benefit result from frequent bathing of the part with opium, henbane, or hyoscyamus, and giving calomel and opium internally.

When these have brought the synovitis to the lowest chronic stage I can hope for, or when the discharge is as little as I can expect it ever to be, I attempt permanent closure of the wound with the actual cautery inserted a tolerable way into the opening, *very hot*, and only *momentarily* applied, always waiting for the ulcerative action of the remedy to subside before making a reapplication. With this treatment, in the last case I had, I had permanent closure in five weeks.

Mr. Gloag's Physiology of the Foot.

It has been stated, in objection to the above, that no

descent of spring heels can take place without rupture of horn at coronet, or tilting up of the toe from the shoe.

In addition to the fact (which I have witnessed, and which any one may assure himself of by experiment,) that the heels do descend without any such tilting up, or any lesion at the coronet taking place, the reasoning is manifestly incorrect, because the crust is not in a plane, but curled in a circle, and is twisted in the same manner as the curling of a strip of paper. Let a common card be taken, and a portion of one angle cut off, to represent springing of the heel, thus forming an obtuse angle, it is impossible to make the sides of this angle touch a flat surface at the same time without splitting the card, or (what happens with the hoof) curling it into the form of half the crust of the hoof. Let the angle of the card, representing the anterior coronary part of the hoof, be called A, and that immediately below it representing the toe B, that at the coronet and heel C, and that below it D. Now let A be depressed downwards and backwards, let the coronet and C be allowed to bulge outwards, and D be curled inwards, (the exact action which takes place in the living foot,) the spring heel comes flat upon the table. This tends to assist Mr. Gloag's idea, that the action, if any, must be one of contraction instead of expansion.

Very truly yours.

AUGMENTED SALIVARY SECRETION.

By WILLIAM COX, M.R.C.V.S., Ashbourne, Derbyshire.

SIR,—Notwithstanding your broad hints, of late, with reference to the apathy of your old correspondents, they do not bring many of them again into the field of communication, I have no doubt, if they were all interrogated on the subject, various would be their excuses: my principal one is active engagements. Considering what the 'Veterinary Record,' (now not published,) and 'VETERINARIAN' have done for the profession, I think *our only journal ought to receive our fullest support, in every possible way.* Mr. Smith's case of Affection of the Salivary Glands in a Mare, brings to my remembrance some cases of the kind, which perhaps may not be uninteresting, at least to some of your readers.

In 1849, Mrs. Weston, of Ashbourne Green, sent for me

to a cow, which was said to be constantly slavering, and more so when she was ruminating. The symptoms were,—one eye half closed, caused by inability to raise the eyelid; the ear, on the same side, hanging down; and likewise the upper lip on the same side. It was evidently an attack of paralysis which was the cause of these appearances. The treatment was,—blisters applied round the base of the ear, &c., and laxative medicine given. In a month she appeared well.

Mr Docksey, of Kniveton, had one, the symptoms of which were just the same, and the same treatment answered in this case.

Mr. Stafford, of Kniveton, had likewise a cow in the same way. Although, however, the same treatment was adopted as in the other cases, and setons also were inserted, &c., she never recovered: her eyelid and ear, and side of her lip, remained down, and she continually kept slavering, until, at last, I lost sight of her.

Mr. Yates, of Brailsford, had a mare, last winter, in which the saliva ran out of the mouth in a most astonishing manner. The cause I found to be a slight attack of paralysis on one side of the upper lip.

In the summer of 1845, Mr. Needham, of the Paddock-house, directed my attention to a cow, that had been slavering for upwards of nine months previous. Gallons of saliva might be caught in the course of twenty-four hours. I examined this cow over and over again, but never could find any apparent cause for the morbid secretion. She had milked well the greater part of the time, and had never failed in her appetite. Although she had become very poor, she was sold to a skink butcher. I had not an opportunity of making a post-mortem examination. The person that opened her could discover “nothing the matter.”

Mr. Hall, of Waterfall, had a cow, in the spring of 1849, which presented the symptoms of the case last described. She had been amiss about a month.

Treatment.—A gentle purge was first given. Afterwards, an occasional stimulant and tonic were administered; and the region of the parotid and submaxillary glands well blistered; and this was repeated. She ultimately recovered.

I could relate other cases, wherein I have seen a morbid secretion of saliva, without any apparent cause. Yours, &c.

W. COX, M.R.C.V.S.

P.S. I suppose, from the silence of your correspondents, all has been said that can be, on the subject of Firing horses. I have heard a whisper that *deep* firing is coming into dis-

repute at some head-quarters. It is my opinion that deep firing will make some lame horses sound when nothing else will; and this is very desirable: yet, since neither butter nor cheese is made from them, I do not suppose that very many horses are eaten by bipeds in this country. I could send you such a list of cures as would astonish Mr. Turner himself, and when *all other remedies had failed*: almost all, diseases of the extremities.

To the Editor of 'The Veterinarian.'

Chingford; Nov. 7, 1852.

SIR,—I beg leave, in reply to Mr. A. C. Shaw, to state, that I have not seen his pamphlet, or your review of it, or would have been happy to have acknowledged it, as the motto of the 'Centipede' is "*Omnibus*."

The words are in italics, preceded by Mr. Gloag's name, and the passage shows it to be a quotation from his novel, direct experiments, and not mine. I will take the opportunity of including Mr. Shaw's name in it, or that of any other gentleman which I may have omitted; albeit, this is excusable, having been many years absent from England. In 1848, I was in Holstein.

Yours, obediently,

T. J. HODGSON.

W. Percivall, Esq.

Foreign Department.

ANALYSIS OF THE BLOOD OF A HORSE AFTER DIVISION OF HIS PNEUMOGASTRIC NERVES.

By M. E. CLÉMENT, Chêf de Service of Chymistry at the Alfort School.

THE conclusion M. Clément came to, in 1850-1, from certain inquiries he instituted into the double function of respiration and nutrition, led to the laying down, as facts, that, whenever respiration was performed normally, arterial blood invariably contained more water and more fibrine, but less albumen than venous blood; and that, on the contrary, whenever section of the pneumogastric nerves destroyed the

rhythm of physical movement and chymico-vital action of respiration, he always found less water and more albumen, in blood drawn from six to twenty-four hours after such section than in that which had been taken from the vein prior to the operation.

The deductions drawn from these facts are :

1. In regard to normal respiration. *a.* The addition of water to arterial blood. *b.* The diminution of albumen in the same blood. *c.* Augmentation of fibrine.

2. In regard to respiration rendered abnormal through division of the pneumogastric nerves. *a.* Diminution of water after division. *b.* Augmentation of albumen. *c.* Variations in the proportions of fibrine and colouring matter, or rather of colouring particles.

These phenomena result, in the opinion of M. Clément, in defective pulmonary congestion. After division of the pneumogastriacs, the lung quickly loses its vitality, and no longer, up to complete death of it, is more than an inert organ, reduced to the simple office of being a medium of exhalation. It no longer burns the albumen of the venous blood, no longer produces water, though it still admits of the exhalation of a certain quantity of the fluid, the same as a pump would do through which a stream was running. This theory, however, does not explain the reason of the augmentation of fibrine and of the colouring particles in certain cases of divided nerves, and the diminution of the same organic elements in others. The sole explanation, in M. Clément's mind, for this is, that after division of the nerves, the life of the lung naturally becomes extinct; though not so with the other organs of the economy, notwithstanding their functions are subordinate to that of the lung.

M. Clément's experiments, which had been confined to four or five subjects, were now tested by one performed by M. Bouley. Blood was drawn from a horse in vigorous condition, immediately prior to his nerves being divided, and again, six hours afterwards, and both parcels of blood were subjected to a rigorous analysis, under precisely the same conditions, and the results were as under—

Condition of the Blood before the Nerves were divided:

Water	.	.	.	.	803,344
Fixed matters in the Serum	.	.	.	.	53,743
Fibrine	.	.	.	.	3,371
Colouring particles	.	.	.	.	139,542
					<hr/>
					1000,000

Condition of the Blood six hours after the Nerves were divided:

Water	795,015
Fixed matters in the Serum	87,273
Fibrine	3,669
Colouring particles	114,043
	<hr/>
	1000,000

Hence it appears, that “the lung is the seat of sanguineous combustion so long as it is under the influence of normal life; but has no such operation in the contrary case, but degenerates into an inert and passive organ. The blood is one of the agents of combustion, and its albumen is the combustible organic principle. In perfect respiration, water and fibrine are formed out of the albumen; but respiration, modified by the division of the pneumogastriks, has now the effect only of causing the exhalation of a part of the water contained in the blood, without producing any fresh (water), and without altering the albumen, which is one of the principal promoters of it.”

M. Clément observed, at setting out, the remarkable vigour of the subject of experiment; and to this he again calls notice, for the double purpose of contrasting his former condition with that he is now in, some time after the division of the nerves; and of mentioning the coincidence of this loss of condition with the red arterial character of the blood taken from the jugular, when it was opened the second time, six hours after the first bloodletting.

The loss of condition and prostration of strength the horse experienced after the division of his nerves, were evident indications of the rapid extinction of life at once in the muscular system and the lung. And this appears confirmed by the arterial character of the venous blood.

After division of the pneumogastric nerves, the blood, in traversing the lung, still turns red from contact with air, the same as it would in a glass vessel, from absorption of oxygen; and, though this absorption be less abundant than under normal respiration, it nevertheless takes place, which nobody doubts. Now, supposing this blood circulates through organs still retaining their vitality, it will impart to them what little oxygen it has imbibed, and return black. Whereas, on the other hand, when it comes to circulate through organs whose vitality, like that of the lung, is lost, it no longer parts with its oxygen, but returns *red* through the veins; presenting the character of arterial blood:—*Recueil de Méd. Vét., Juillet, 1852.*

Home Department.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A Monthly Council was held at the Society's house in Hanover-square, on Wednesday last, the 3d of November.

PRIZE ESSAYS.—Mr. Pusey, chairman of the Journal Committee, reported the following award made by the judges of essays :—

To Finlay Dun, jun., Lecturer on *Materia Medica*, &c., in the Edinburgh Veterinary College, the Society's prize of 20%, for the best account of those diseases in the horse and the ox which either are or may become hereditary.

Mr. Pusey also informed the Council that the Judges had "commended" the essay on those diseases in the horse and the ox which either are or may become hereditary, bearing the motto: "*Perituræ parcite chartæ.*"

VETERINARY GRANT.—Sir John V. Shelley, Bart., M.P., Chairman of the Veterinary Grant Committee, presented the following report, which was unanimously adopted by the Council :—

"The Committee having examined the Report of the Royal Veterinary College, find that, for the last year, Professor Simonds has been liberated from all duties connected with the Horse Department in the College, and has delivered to the pupils additional lectures in the branch relating to cattle, sheep, and pigs; namely, five lectures in the week instead of three. The Committee are, however, of opinion that the connection of the Society with the Royal Veterinary College might be made more practically useful:

"1. By investigating (such) particular classes of diseases or subjects as may be from time to time directed by the Council;

"2. By delivering lectures in the council-room of the Society; and,

"3. By supplying a detailed report of the cases of cattle, sheep, and pigs, treated in the Royal Veterinary College.

"With this amended system, the committee recommend a renewal of the grant."

On the motion of Mr. Brandreth, seconded by Mr. Simpson, it was then resolved that a grant of 200%, for the current year, should be made by the Council to the Royal Veterinary College.

VETERINARY MEDICAL ASSOCIATION.

The Silver Medals of the society for the session 1851-2, have been awarded to,—

Mr. J. Orme Dudfield (of Gloucester), for his essay upon “The Descriptive Anatomy of the Muscles immediately engaged in affecting the Respiratory movements of the Chest, in the Horse, Ox, and Dog;”

And to Mr. N. B. Von. Ennzelmänn, for his preparation of “A Section of the Head of the Ox, showing the blood-vessels injected;”

Both these gentlemen being students of the first session at the Royal Veterinary College.

THE VETERINARIAN, DECEMBER 1, 1852.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

ONE of the difficulties besetting the path of an Editor of a periodical print,—though it be a minor one, and one that does not often happen to stand in our way, yet one which grows in magnitude with the extension of the period assigned to the reappearance of his journal, be it weekly, monthly, or quarterly,—is the apportioning the bulkiness or lengthiness of his articles to the limits set by usage or prescription to his publication. To divide an article into parts, “to be continued,” is never desirable, neither is it at all times consistent with the nature of the composition, and it becomes the less so in proportion as the interval grows greater between the reappearance of the numbers of the journal itself. And, to make any one single number up of *all* “original,” or *all* “extracted,” or any other one class of material, would be certain to disappoint, perhaps to offend, its readers. Into some such dilemma as this, our subscribers will perceive we have this month been thrown by Professor Simonds;

albeit the Professor, as we think they will agree with us, has furnished us with the very best of apologies for setting aside certain other matters to make room for his admirable "INTRODUCTORY ADDRESS."

For many years past, the Veterinary College has shared the fate of other, at the time new, institutions, in being with more or less reason found fault with and carped at, from time to time, for doing this or not doing that, without, by such remonstrances, just or unjust, having undergone any material alteration in its constitution from what it was in former days, or indeed originally was. The day, however, has at length arrived, when we behold reform rearing its head within the walls of the College itself, and Professor Simonds presenting himself as the bold herald to solicit attention to it. Not that he has confined his proclamation of the necessity of reform to within, but has announced as great requirement of it without the College walls: in a word, he has proclaimed, in outline, a scheme of *Professional reform*, and one which appears well deserving of the serious consideration of every member of the Corporate Body, and of those members in particular who find themselves intrusted with the management of the affairs of that body. To pretend, this month, to enter into any examination or analysis of the sketch submitted, is, in our present confined space, quite out of the question. Let it suffice to observe, that it comprehends a plan which, as our readers will perceive, embraces many and various topics, and that some of them require a good deal of thought and consideration ere any opinion can be safely pronounced upon them. Opportunity serving, we hope, however, on some future day, to devote to them, at least to such as appear most to call for it, our best attention. Meanwhile, it would afford us, and, we will venture to add, Professor Simonds as well, no small gratification to learn the sentiments, on the several subjects in question, of those in the profession who are so well able to offer a word of advice on such a novel and important occasion.

A communication will be found in our pages, this month, entailing a question of great moment to proprietors of forges, which, connected as it is in the present instance with the decision that has been come to upon it, invites us to pen a few remarks on the subject. The narrative is a plain tale. A gentleman sends his horse to a forge to be shod. The men at the forge receive directions, from his servant bringing the horse, to send the animal home when shod. A boy, the servant of the proprietor of the forge, is employed to take the horse home. He rides the horse, which, on its way, shies and bolts, and runs away with the boy, and, in his precipitous flight, falls down, injuring one knee and one hind fetlock, and thereby becomes (though in no danger of losing his life from the fall) damaged, and diminished in value. The gentleman calls upon the proprietor of the forge for compensation for the damage; the latter demurs at the call. Solicitors on both sides are consulted. In the end, the matter is agreed to be settled by arbitration. The award is, that the master of the forge shall pay the gentleman £30; the price of the horse having been stated to be eighty guineas.

The settlement of an important question like this, must, in our opinion, be regulated by some such considerations as follow; and upon the facts capable of being adduced for and against them, ought, we think, the arbitration to turn.

1st. It should be inquired, if it be usual or customary for proprietors at whose forges horses are shod to *send* them home after being shod?—or, if it be the practice in this one particular forge so to do?

2dly. If the boy intrusted to take the horse home was capable of riding and managing a horse under ordinary circumstances?

3dly. Did the boy act right in *riding* instead of leading the horse; and would he have incurred less risk of accident had he *led* the horse?

4thly. Was the horse known to be unsteady or shy, and apt to run away? and if so, were the men at the shop, or the boy, forewarned of it?

5thly. Was the fall of the horse attributable to accident ; or was it owing to any inability, or want of care or skill on the part of the boy ?

It seems to us that by the answers to be given to these questions ought the matter to be determined. How far they are already answered by our correspondent may be gathered from his communication. According to this account, he certainly appears to have the turn of the equity of the case in his favour ; taking which to be established, we cannot help expressing our doubts whether he has acted the part of justice to himself in consenting to an arbitration ; and whether, had he chosen to encounter “the glorious uncertainty of the law,” he would not have come off with more laurels round his hat, though, perhaps, still with not less abstraction of weight from his purse.

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